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General Information

Introduction

This package provides component level information for the HP 54111D, 54112D, or 54120A/B Digitizing Oscilloscopes. Hewlett-Packard's repair policy for these instruments is by exchange of assemblies. Techniques for troubleshooting these instruments to the assembly level are provided in the appropriate instrument service manuals. This package is not intended to be a comprehensive component-level troubleshooting aid. Other information and special equipment may be necesary to fully test assemblies after a component-level repair.

Note

This package is considered to be an aid to general understanding of the operation of an instrument. Information is provided at the convenience of Hewlett-Packard for the convenience of the user. Though it may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate.

ACCORDINGLY, HEWLETT-PACKARD SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY ARISING FROM THE USE OF THIS DOCUMENT.

Safety

Warning

The information in this package is for the use of trained service personnel. To avoid electrical shock, do not service unless you are qualified.

Warning

The Service Manual provides safety information that must be followed to avoid personal injury or damage to the instrument. Do not use this information without following all pertinent safety information in the Service Manual.

Supplement Description

This package consists of an initial section of general information and sections with specific information covering other assemblies.

The general information includes general warnings, cautions, and conventions.

Assembly information includes the following: additional warnings and cautions if applicable, parts lists, component locators, and schematics. Instrument level parts lists, since they must kept current, are in the service manual only.

Manufacturers' Codes

A list of manufacturers' codes is given in table 1. The codes are given for parts in the parts lists. The table gives the manufacturer and address for each code.

Table 1. List of Manufacturers' Codes

Mfr. No.	Name	Address		
A3500	SGS Ates	Milan	IT	
C0633	RIFA	Bromma	SE	
S0545	Nippon Electric Co	Tokyo	JP	
S4013	Hitachi America Ltd	Sunnyvale	CA	94086
00000	Any satisfactory supplier			
00853	Sangamo Weston Inc	Norcross	GA	30071
01121	Allen-Bradley Co	Milwaukee	WI	53204
01295	Texas Instr Inc Semicond Cmpnt Div	Dallas	TX	75222
01686	RCL Electronics Inc	Northbrook	IL	60062
04713	Motorola Semiconductor Products	Phoenix	AZ	85008
06665	Precision Monolithics Inc	Santa Clara	CA	95050
07263	Fairchild Semiconductor Div	Mountain View	CA	94042
1B546	Varo Semiconductor Inc	Garland	TX	75040
11236	CTS Corp Berne Div	Berne	IN	46711
17856	Siliconix Inc	Santa Clara	CA	95054
18324	Signetics Corp	Sacramento	CA	95834
19701	Mepco/Electra Corp	Mineral Wells	TX	76067
2M627	R-ohm Corp	Irvine	CA	92713
24355	Analog Devices Inc	Norwood	MA	02062
24546	Corning Glass Works (bradford)	Bradford	PA	16701
27014	National Semiconductor Corp	Palo Alto	CA	94304
28480	Hewlett-Packard Co Corporate Hq	Palo Alto	CA	94304
32997	Bourns Inc	Riverside	CA	92507
34335	Advanced Micro Devices Inc	Sunnyvale	CA	94086
34649	Intel Corp	Mountain View	CA	95051
56289	Sprague Electric Co	North Adams	MA	01247
72799	General Electric Co	Fairfield	CT	06430
73138	Beckman Industrial Corp	Fullerton	CA	92634
9N171	Unitrode Computer Products Corp	Methuen	MA	01844
91637	Dale Electronics	Columbus	NE	68601

Reference Designators

Reference designators are based on current ANSI and IEEE standards. A list of reference designators is part of table 2.

Abbreviations

A list of commonly used abbreviations is part of table 2. Differences in use of upper and lower case depends on the where the abbreviation is used. For example, all text in parts lists and on schematics is upper case.

Table 2. Reference Designators and Abbreviations

REFERENCE DESIGNATORS

A = assembly
B = fan;motor
BT = battery
C = capacitor
CR = diode;diode thyristor; varactor
DL = delay line
DS = annunciator;lamp;LED
E = misc. electrical part
F = fuse
FL = filter
H = hardware
J = electrical connector (stationary portion);jack
L = coil;inductor
MP = misc. mechanical part
P = electrical connector (moveable portion);plug
Q = transistor;SCR; triode thyristor
R = resistor
RT = thermistor
S = switch;jumper
T = transformer
TB = terminal board
TP = test point
U = integrated circuit; microcircuit
V = electron tube; glow lamp
VR = voltage regulator; breakdown diode
W = cable
X = socket
Y = crystal unit(piezo-electric or quartz)

ABBREVIATIONS

A = amperes
A/D = analog-to-digital
AC = alternating current
ADJ = adjust(ment)
AL = aluminum
AMPL = amplifier
ANLG = analog
ANSI = American National Standards Institute
ASSY = assembly
ASTIG = astigmatism
ASYNCHRO = asynchronous
ATTEN = attenuator
AWG = American wire gauge
BAL = balance
BCD = binary-code decimal
BD = board
BFR = buffer
BIN = binary
BRDG = bridge
BSHG = bushing
BW = bandwidth
C = ceramic;cermet (resistor)
CAL = calibrate;calibration
CC = carbon composition
CCW = counterclockwise
CER = ceramic
CFM = cubic feet/minute
CH = choke
CHAM = chamfered
CHAN = channel
CHAR = character
CM = centimeter
CMOS = complementary metal-oxide-semiconductor
CMR = common mode rejection
CNDCT = conductor
CNTR = counter
CON = connector
CONT = contact
CRT = cathode-ray tube
CW = clockwise
D = diameter
D/A = digital-to-analog
DAC = digital-to-analog converter
DARL = darlington
DAT = data
DBL = double
DBM = decibel referenced to 1mW
DC = direct current
DCDR = decoder
DEG = degree
DEMUX = demultiplexer
DET = detector
DIA = diameter
DIP = dual in-line package
DIV = division
DMA = direct memory access
DPDT = double-pole, double-throw
DRC = DAC refresh controller
DRVR = driver
DWL = dowel
ECL = emitter coupled logic
ELAS = elastomeric
EXT = external
F = farads;metal film (resistor)
FC = carbon film/ composition
FD = feed
FEM = female
FF = flip-flop
FL = flat
FM = foam;from
FR = front
FT = gain bandwidth product
FW = full wave
FXD = fixed
GEN = generator
GND = ground(ed)
GP = general purpose
GRAT = graticule
GRV = groove
H = henries;high
HD = hardware
HDND = hardened
HG = mercury
HGT = height
HLCL = helical
HORIZ = horizontal
HP = Hewlett-Packard
HP-IB = Hewlett-Packard Interface Bus
HR = hour(s)
HV = high voltage
HZ = Hertz
I/O = input/output
IC = integrated circuit
ID = inside diameter
IN = inch
INCL = include(s)
INCAND = incandescent
INP = input
INTEN = intensity
INTL = internal
INV = inverter
JFET = junction field-effect transistor
JKT = jacket
K = kilo(103)
L = low
LB = pound
LCH = latch
LCL = local
LED = light-emitting diode
LG = long
LI = lithium
LK = lock
LKWR = lockwasher
LS = low power Schottky
LV = low voltage
M = mega(106);megohms; meter(distance)
MACH = machine
MAX = maximum
MFR = manufacturer
MICPROC = microprocessor
MINTR = miniature
MISC = miscellaneous
MLD = molded
MM = millimeter
MO = metal oxide
MTG = mounting
MTLC = metallic
MUX = multiplexer
MW = milliwatt
N = nano(10-9)
NC = no connection
NMOS = n-channel metal-oxide-semiconductor
NPN = negative-positive-negative
NPRN = neoprene
NRFR = not recommended for field replacement
NSR = not separately replaceable
NUM = numeric
OBD = order by description
OCTL = octal
OD = outside diameter
OP AMP = operational amplifier
OSC = oscillator
P = plastic
P/O = part of
PC = printed circuit
PCB = printed circuit board
PD = power dissipation
PF = picofarads
PI = plug in
PL = plate(d)
PLA = programmable logic array
PLST = plastic
PNP = positive-negative-positive
POLYE = polyester
POS = positive;position
POT = potentiometer
POZI = pozidrive
PP = peak-to-peak
PPM = parts per million
PRCN = precision
PREAMP = preamplifier
PRGMBL = programmable
PRL = parallel
PROG = programmable
PSTN = position
PT = point
PW = potted wirewound
PWR = power
R-S = reset-set
RAM = random-access memory
RECT = rectifier
RET = retainer
RF = radio frequency
RGLTR = regulator
RGTR = register
RK = rack
RMS = root-mean-square
RND = Round
ROM = read-only memory
RPG = rotary pulse generator
RX = receiver
S = Schottky-clamped; seconds(time)
SCR = screw;silicon controlled rectifier
SEC = second(time);secondary
SEG = segment
SEL = selector
SGL = single
SHF = shift
SI = silicon
SIP = single in-line package
SKT = skirt
SL = slide
SLDR = solder
SLT = slot(ted)
SOLD = solenoid
SPCL = special
SQ = square
SREG = shift register
SRQ = service request
STAT = static
STD = standard
SYNCHRO = synchronous
TA = tantalum
TBAX = tubeaxial
TC = temperature coefficient
TD = time delay
THD = thread(ed)
THK = thick
THRU = through
TP = test point
TPG = tapping
TPL = triple
TRANS = transformer
TRIG = trigger(ed)
TRMR = trimmmer
TRN = turn(s)
TTL = transistor-transistor
TX = transmitter
U = micro(10-6)
UL = Underwriters Laboratory
UNREG = unregulated
VA = voltampere
VAC = volt,ac
VAR = variable
VCO = voltage-controlled oscillator
VDC = volt,dc
VERT = vertical
VF = voltage,filtered
VS = versus
W = watts
W/ = with
W/O = without
WW = wirewound
XSTR = transistor
ZNR = zener
oC = degree Celsius (Centigrade)
oF = degree Fahrenheit
oK = degree Kelvin

Logic Symbols

Logic symbols are based on current ANSI and IEEE standards. These standards may be unfamiliar to some people. Figure 1 (next page) gives a brief explanation of the principles used for these symbols and an example with explanations.

Logic Convention

The convention used is positive logic, as follows:

- HIGH (H) - 1 - True, active, or asserted state (more positive)
- LOW (L) - 0 - False, inactive, or unasserted state (more negative)

Signals may be either HIGH true or LOW true. They are assumed to be HIGH true unless indicated by an "L" at the beginning of the mnemonic or an overline across all or part of the mnemonic.

Most circuitry uses TTL or ECL technology. Some custom ICs use other technology with various logic levels.

• TTL	LOW	below +0.8 V	HIGH	above +2.0 V
• ECL	LOW	below -1.50 V	HIGH	above -1.10 V

Parts Lists

Parts lists include parts used at the time of the first shipments. Changes from that time are covered in change information (see Changes and Updates).

Component Locators

Component locators include a drawing with a locator grid and a table giving grid locations of components.

Changes and Updates

Unless otherwise noted, the basis for information in this package is the configuration of the instrument or assembly when it was first shipped to customers. This includes the parts lists, schematics, and other information. Changes to this package are provided at the convenience of Hewlett-Packard and there may be delays between the occurence of changes in the instrument and the provision of update information.

Change pages may be part of the original printed supplement or part of an update document. The update document is changed periodically to reflect changes since the package was printed. The update document includes replacement or insert pages for the package, as well as the instructions for including the new pages. For ease of use, incorporate updates into this package as soon as you receive them.

In addition to change information, the update may contain information for correcting errors in the package. Hewlett-Packard recommends that you periodically request the latest update. The update is identified by the print date and part number of this document, both of which appear on the cover page. Complimentary copies of the update are available from Hewlett-Packard.

Figure 1. Logic Symbols (1 of 3)

GENERAL

All signals flow from left to right, relative to the symbol's orientation with inputs on the left side of the symbol, and outputs on the right side of the symbol (the symbol may be reversed if the dependency notation is a single term.)

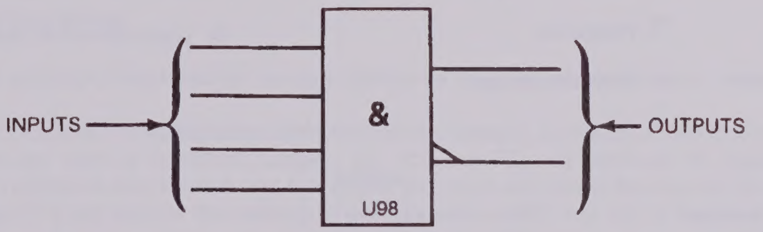
All dependency notation is read from left to right (relative to the symbol's orientation).

An external state is the state of an input or output outside the logic symbol.

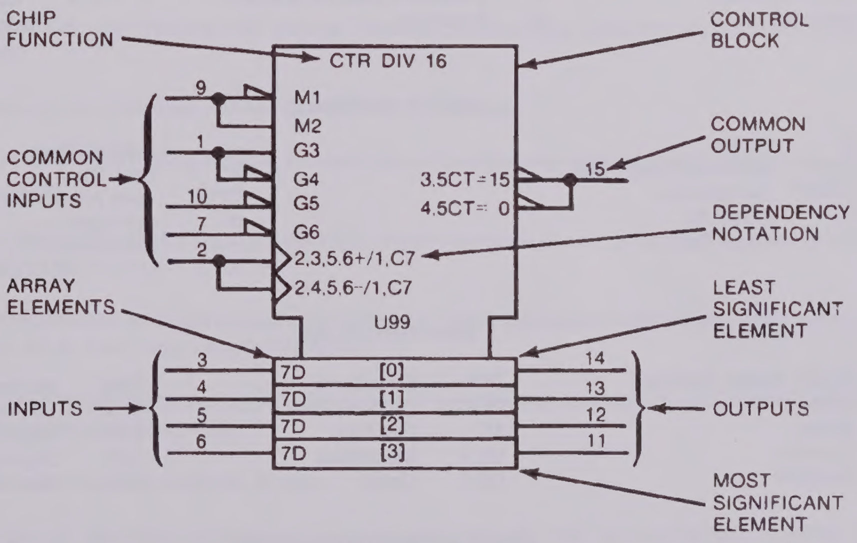
An internal state is the state of an input or output inside the logic symbol. All internal states are True = High.

SYMBOL CONSTRUCTION

Some symbols consist of an outline or combination of outlines together with one or more qualifying symbols, and the representation of input and output lines.


INPUTS
&
U98
OUTPUTS

Some have a common Control Block with an array of elements:


CHIP FUNCTION
CTR DIV 16
CONTROL BLOCK
9
M1
M2
1
G3
COMMON CONTROL INPUTS
G4
10
G5
7
G6
2
2,3,5,6+/1,C7
2,4,5,6−/1,C7
U99
3,5CT=15
4,5CT= 0
15
COMMON OUTPUT
DEPENDENCY NOTATION
ARRAY ELEMENTS
LEAST SIGNIFICANT ELEMENT
INPUTS
3
4
5
6
7D [0]
7D [1]
7D [2]
7D [3]
14
13
12
11
OUTPUTS
MOST SIGNIFICANT ELEMENT

CONTROL BLOCK - All inputs and dependency notation affect the array elements directly. Common outputs are located in the control block. (Control blocks may be above or below the array elements.)

ARRAY ELEMENTS -All array elements are controlled by the control block as a function of the dependency notation. Any array element is independent of all other array elements. Unless indicated, the least significant element is always closest to the control block. The array elements are arranged by binary weight. The weights are indicated by powers of 2 (shown in [ ]).

Figure 1. Logic Symbols (2 of 3)

OTHER SYMBOLS

∩	Analog Signal
&	AND
} {	Bit Grouping
▷	Buffer
!	Compare
▷	Dynamic
=1	Exclusive OR
⎍	Hysteresis
?	Interrogation
—	Internal Connection
◺ ◿	Inversion
○	Negation
-✕-	Nonlogic Input/Output
◇̲	Open Circuit (external resistor)
◇̄	Open Circuit (external resistor)
≥1	OR
◇̄	Passive Pull Down (internal resistor)
◇̲	Passive Pull Up (internal resistor)
⌉	Postponed
←	Shift Left (or up)
→	Shift Right (or down)
/	Solidus (allows an input or output to have more than one function)
▽	Tri-State
,	Causes notation and symbols to effect inputs/outputs in an AND relationship, and to occur in the order read from left to right.
( )	Used for factoring terms using algebraic techniques.
[ ]	Information not defined.
Φ	Logic symbol not defined due to complexity.

LABELS

BG	Borrow Generate
BI	Borrow Input
BO	Borrow Output
BP	Borrow Propagate
CG	Carry Generate
CI	Carry Input
CO	Carry Output
CP	Carry Propagate
CT	Content
D	Data Input
E	Extension (input or output)
F	Function
J	J Input
K	K Input
P	Operand
T	Transition
+	Count Up
–	Count Down

MATH FUNCTIONS

Σ	Adder
ALU	Arithmetic Logic Unit
COMP	Comparator
DIV	Divide By
=	Equal To
>	Greater Than
<	Less Than
CPG	Look Ahead Carry Generator
π	Multiplier
P-Q	Subtractor

CHIP FUNCTIONS

BCD	Binary Coded Decimal
BIN	Binary
BUF	Buffer
CTR	Counter
DEC	Decimal
DIR	Directional
DMUX	Demultiplexer
FF	Flip-Flop
MUX	Multiplexer
OCT	Octal
RAM	Random Access Memory
RCVR	Line Receiver
ROM	Read Only Memory
SEG	Segment
SRG	Shift Register

DELAY and MULTIVIBRATORS

⎍⎍	Astable
├100 ns┤	Delay
1⎍	Nonretriggerable Monostable
NV	Nonvolatile
⎍	Retriggerable Monostable

Figure 1. Logic Symbols (3 of 3)

INPUTS - Inputs are located on the left side of the symbol and are affected by their dependency notation.

Common control inputs are located in the control block and control the inputs/outputs to the array elements according to the dependency notation.

Inputs to the array elements are located with the corresponding array element with the least significant element closest to the control block.

OUTPUTS - Outputs are located on the right side of the symbol and are effected by their dependency notation.

Common control outputs are located in the control block.

Outputs of array elements are located in the corresponding array element with the least significant bit closest to the control block.

CHIP FUNCTION - The labels for chip functions are defined, i.e., CTR - counter, MUX - multiplexer.

DEPENDENCY NOTATION

Dependency notation is always read from left to right relative to the symbol's orientation.

Dependency notation indicates the relationship between inputs, outputs, or inputs and outputs. Signals having a common relationship will have a common number, i.e., C7 and 7D....C7 controls D. Dependency notation 2,3,5,6+/1.C7 is read as when 2 and 3 and 5 and 6 are true, the input will cause the counter to increment by one count....or (/) the input (C7) will control the loading of the input value (7D) into the D flip-flops.

The following types of dependencies are defined:

a. AND (G), OR (V), and Negate (N) denote Boolean relationship between inputs and outputs in any combination.

b. Interconnection (Z) indicates connections inside the symbol.

c. Control (C) identifies a timing input or a clock input of a sequential element and indicates which inputs are controlled by it.

d. Set (S) and Reset (R) specify the internal logic states (outputs) of an RS bistable element when the R or S input stands at its internal 1 state.

e. Enable (EN) identifies an enable input and indicates which inputs and outputs are controlled by it (which outputs can be in their high impedance state).

f. Mode (M) identifies an input that selects the mode of operation of an element and indicates the inputs and outputs depending on that mode.

g. Address (A) identifies the address inputs.

h. Transmission (X) identifies bi-directional inputs and outputs that are connected together when the transmission input is true.

DEPENDENCY NOTATION SYMBOLS

A	Address (selects inputs/outputs) (indicates binary range)	N	Negate (complements state)
C	Control (permits action)	R	Reset Input
EN	Enable (permits action)	S	Set Input
G	AND (permits action)	V	OR (permits action)
M	Mode (selects action)	Z	Interconnection
		X	Transmission

Schematics

The schematics are provided on large folded sheets. They can be kept in the pocket provided. Schematics for an individual assembly are sequentially numbered by the large bold number at each schematic. These numbers are used to cross reference signal connections between the schematics.

At the schematic is a table giving the reference designators of components on that schematic. Another table shows the power connections, power grounds, and non-functional pins of ICs (integrated circuits). This helps avoid non-functional clutter on the schematic and gives one place to show IC power connections when IC sections are split between schematics.

Unless otherwise noted, the following component values apply:

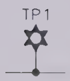
- Resistance is in ohms.
- Capacitance is in microfarads.
- Inductance is in microhenries.

Notes specific to a particular schematic are located on the schematic.

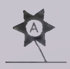
Symbols on schematics are based on current ANSI and IEEE standards.

Additional schematic symbols are shown below:

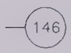
Tool-aided adjustment.



Numbered test point.
Measurement aid provided.



Lettered test point. No
measurement aid provided.



Signal reference.

15 Schematic reference.

Component-level Information Packet

for HP 54111D, 54112D, 54120A/B

Power Supply Assemblies

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

54110-66513 Primary Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-4962	1	1	CAPACITOR-FXD 1UF +-20% 250VAC(RMS)	28480	0160-4962
C2	0160-4355	6	2	CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C3	0160-4355	6		CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C4	0180-3652	6	4	CAPACITOR-FXD 680UF+30-10% 250VDC AL	28480	0180-3652
C5	0180-3652	6		CAPACITOR-FXD 680UF+30-10% 250VDC AL	28480	0180-3652
C6	0180-3652	6		CAPACITOR-FXD 680UF+30-10% 250VDC AL	28480	0180-3652
C7	0180-3652	6		CAPACITOR-FXD 680UF+30-10% 250VDC AL	28480	0180-3652
C8	0160-6029	5	3	CAPACITOR-FXD 2.2UF +-10% 400VDC	28480	0160-6029
C9	0160-6029	5		CAPACITOR-FXD 2.2UF +-10% 400VDC	28480	0160-6029
C10-11				NOT ASSIGNED		
C12	0180-2866	2	1	CAPACITOR-FXD 22UF+100-10% 50VDC AL	28480	0180-2866
C13	0160-6029	5		CAPACITOR-FXD 2.2UF +-10% 400VDC	28480	0160-6029
C14	0160-4822	2	1	CAPACITOR-FXD 1000PF +-5% 100VDC CER	28480	0160-4822
C15				NOT ASSIGNED		
C16	0180-3845	9	1	CAPACITOR-FXD 4.7UF+-10% 35VDC TA	28480	0180-3845
C17	0160-5467	3	2	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C18	0160-4808	4	2	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C19	0160-5469	5	1	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C20	0160-5471	9	4	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C21	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C22	0160-6192	3	1	CAPACITOR-FXD 0.047UF +-10% 63VDC	28480	0160-6192
C23	0160-4812	0	1	CAPACITOR-FXD 220PF +-5% 100VDC CER	28480	0160-4812
C24	0160-5468	4	1	CAPACITOR-FXD 0.47UF +-10% 50VDC	28480	0160-5468
C25	0160-6333	4	1	CAPACITOR-FXD 2200PF +-5% 1KVDC POLYP	28480	0160-6333
C26	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C27	0180-3653	7	2	CAPACITOR-FXD 56UF+100-10% 200VDC AL	28480	0180-3653
C28	0160-5467	3		CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C29	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C30	0160-5211	5	2	CAPACITOR-FXD 0.1UF +-5% 250VDC MET-POLYE	28480	0160-5211
C31	0180-3653	7		CAPACITOR-FXD 56UF+100-10% 200VDC AL	28480	0180-3653
C32	0160-5211	5		CAPACITOR-FXD 0.1UF +-5% 250VDC MET-POLYE	28480	0160-5211
C33	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C34	0160-3878	6	1	CAPACITOR-FXD 1000PF +-20% 100VDC CER	28480	0160-3878
C35	0160-4281	7	1	CAPACITOR-FXD 2200PF +-20% 250VAC(RMS)	C0633	PME271Y422
CB1	3105-0230	5	1	CIRCUIT BREAKER 2-POLE 7.5A 250VAC	28480	3105-0230
CR1	1906-0224	3	1	DIODE-FW BRDG 600V 25A	04713	MDA2506
CR2	1901-1065	2	6	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR3	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR4	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR5	1901-0995	5	3	DIODE-HV RECT 1KV 1A 100NS DO-41	1B546	TG-10
CR6	1901-0995	5		DIODE-HV RECT 1KV 1A 100NS DO-41	1B546	TG-10
CR7	1901-0995	5		DIODE-HV RECT 1KV 1A 100NS DO-41	1B546	TG-10
CR8	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR9	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR10	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR11				NOT ASSIGNED		
CR12	1901-1087	8	1	DIODE-PWR RECT 600V 3A 200NS	04713	MR856
DS1	1990-0451	5	2	LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468
DS2	1990-0451	5		LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468

54110-66513 Primary Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
E1	0340-1105	0	1	INSULATOR THRM-CNDCT (CR1)	28480	0340-1105
E2	0340-1122	1	1	INSULATOR-XSTR THRM-CNDCT TO-18 (Q2)	28480	0340-1122
E3	0360-1069	7	1	SOLDER LUG	28480	0360-1069
FL1	9135-0282	6	1	FILTER-LINE 10A	28480	9135-0282
HS1	1205-0619	4	1	HEAT SINK (Q2)	28480	1205-0619
H1	0380-1577	4	1	STANDOFF HEX M3	28480	0380-1577
H2	0400-0310	5	1	GROMMET-SCREW	28480	0400-0310
H3	0400-0311	6	2	GROMMET-SCREW	28480	0400-0311
H4	0515-0372	2	6	SCREW-MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H5	0515-1025	4	2	SCREW-MACH M3 26MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H6	0515-1035	6	2	SCREW-MACH M3 8MM-LG FLAT-HD T10	00000	ORDER BY DESCRIPTION
H7	0515-1038	9	1	SCREW-MACH M3 35MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H8	0624-0555	4	1	SCREW-TAPPING 1IN-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H9	0624-0691	9	1	SCREW-TAPPING 4-40 1/4IN-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1	1251-6918	5	1	CONN-2 CONT	28480	1251-6918
J2	1251-8457	1	2	CONN-POST TYPE 0.197-PIN-SPCG 3-CONT	28480	1251-8457
J3	1251-8457	1		CONN-POST TYPE 0.197-PIN-SPCG 3-CONT	28480	1251-8457
J4	1251-5863	7	1	CONN-POST TYPE 2.5-PIN-SPCG 5-CONT	28480	1251-5863
L1	9100-4446	9	1	INDUCTOR	28480	9100-4446
L2	9100-4387	7	1	INDUCTOR 7.5MH +-10%	28480	9100-4387
L3	9140-0731	1	1	INDUCTOR 33MH +-10%	28480	9140-0731
L4	9140-0624	1	1	INDUCTOR 270UH +-10%	28480	9140-0624
L5	9140-1045	2	1	INDUCTOR 100UH +-10%	28480	9140-1045
L6	54110-61102	1	1	INDUCTOR-SNUBBER	28480	54110-61102
L7	9100-4449	2	1	INDUCTOR	28480	9100-4449
L8	9100-1612	5	1	INDUCTOR 330NH +-20%	28480	9100-1612
MP1	54110-00603	1	1	SHIELD-PRIMARY SUPPLY	28480	54110-00603
MP2	54110-01213	1	1	BRACKET (CR1)	28480	54110-01203
MP3	54110-24701	0	1	BRACKET-CAPACITOR SUPPORT	28480	54110-24701
MP4	54110-64101	8	1	COVER-REAR PANEL ASSEMBLY	28480	54110-64101
Q1	1855-0709	0	1	TRANSISTOR MOSFET N-CHAN E-MODE SI	17856	IRFD120
Q2	1854-1158	3	1	TRANSISTOR NPN SI PD=44W	A3500	SGSIF444
R1	0757-0133	5	1	RESISTOR 383K 1% 0.5W TF TC=0+-100	28480	0757-0133
R2	0816-0008	9	2	RESISTOR 10K 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-1002-J
R3	0816-0008	9		RESISTOR 10K 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-1002-J
R4				NOT ASSIGNED		
R5	0761-0021	9	2	RESISTOR 1K 5% 1W MO TC=0+-200	28480	0761-0021
R6	0761-0021	9		RESISTOR 1K 5% 1W MO TC=0+-200	28480	0761-0021
R7	0698-4011	0	2	RESISTOR 250K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2503-F
R8	0698-4011	0		RESISTOR 250K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2503-F
R9	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R10	0698-4539	7		RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R11	0757-0289	2	1	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R12	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R13	0757-0452	1	1	RESISTOR 27.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2742-F
R14	0757-0449	6	3	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R15	0698-3167	5	2	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R16	0698-3451	0	1	RESISTOR 133K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1333-F
R17	0698-3167	5		RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F

54110-66513 Primary Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R18	0757-0384	8	1	RESISTOR 20 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-20R0-F
R19	0757-0401	0	1	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R20	0698-4002	9	1	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R21	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R22	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R23	0683-0475	1	2	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R24	0757-0283	6	4	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R25	0699-0208	1	3	RESISTOR 1 5% 0.25W CF TC=0-400	28480	0699-0208
R26	0761-0074	2	1	RESISTOR 15K 5% 1W MO TC=0+-200	28480	0761-0074
R27	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R28	0699-0272	9	1	RESISTOR 75K 0.1% 0.125W TF TC=0+-25	28480	0699-0272
R29	0698-4460	3	1	RESISTOR 649 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-649R-F
R30	0698-6347	9	1	RESISTOR 1.5K 0.1% 0.125W TF TC=0+-25	28480	0698-6347
R31	0757-0440	7	2	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R32	0757-0440	7		RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R33	0761-0007	1	1	RESISTOR 27K 5% 1W MO TC=0+-200	28480	0761-0007
R34	0757-0441	8	1	RESISTOR 8.25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-8251-F
R35	0757-0280	3	1	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R36	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R37	0698-6621	2	1	RESISTOR 250K 0.1% 0.125W TF TC=0+-25	28480	0698-6621
R38	0757-0439	4	1	RESISTOR 6.81K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6811-F
R39	2100-3154	7	1	RESISTOR-TRMR 1K 10% TKF SIDE-ADJ 17-TRN	32997	3006P-1-102
R40	0698-6320	8	1	RESISTOR 5K 0.1% 0.125W TF TC=0+-25	28480	0698-6320
R41	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R42	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R43	0699-0208	1		RESISTOR 1 5% 0.25W CF TC=0-400	28480	0699-0208
R44	0699-0208	1		RESISTOR 1 5% 0.25W CF TC=0-400	28480	0699-0208
R45	0683-0475	1		RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R46	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
RT1	0837-0263	2	2	THERMISTOR-SURGE PTCTR 5 OHM AT 25 DEG C	28480	0837-0263
RT2	0837-0263	2		THERMISTOR-SURGE PTCTR 5 OHM AT 25 DEG C	28480	0837-0263
RT3	0837-0260	9	1	THERMISTOR-SWITCHING RESISTANCE: 100	28480	0837-0260
RV1	0837-0261	0	1	VOLTAGE SUPPRESSOR PEAK CURRENT=4500A	72799	V275LA20A
S1	3101-2609	8	1	SWITCH-SL DPDT STD 5A 250VAC PC	28480	3101-2609
S2	3101-2055	8	1	SWITCH-PB SPDT MOM 0.02A 20 VAC	28480	3101-2055
T1	9100-4383	3	1	TRANSFORMER		
T2	9100-4473	2	1	TRANSFORMER-POWER PRIMARY	28480	9100-4473
TP1	0360-0535	0	6	TERMINAL-TEST POINT	28480	0360-0535
TP2	0360-0535	0		TERMINAL-TEST POINT	28480	0360-0535
TP3	0360-0535	0		TERMINAL-TEST POINT	28480	0360-0535
TP4	0360-0535	0		TERMINAL-TEST POINT	28480	0360-0535
TP5	0360-0535	0		TERMINAL-TEST POINT	28480	0360-0535
TP6	0360-0535	0		TERMINAL-TEST POINT	28480	0360-0535
U1	1826-1120	0	1	IC MISC 20-DIP-C PKG	28480	1826-1120
U2	1990-1044	4	2	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U3	1826-0643	0	2	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
U4	1826-0643	0		IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
U5	1990-1044	4		OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)

54110-66513 Primary Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
V1	1970-0050	8	2	TUBE-ELECTRON SURGE V PROTECTOR	28480	1970-0050
V2	1970-0050	8		TUBE-ELECTRON SURGE V PROTECTOR	28480	1970-0050
VR1				NOT ASSIGNED		
VR2	1902-0939	9	1	DIODE-VOLTAGE SUPPRESSOR VR=5.0V	04713	1N5908
VR3	1902-0244	9	1	DIODE-ZNR 30V 5% PD=1W IR=5UA	28480	1902-0244

54110-66507 Analog Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6028	4	1	CAPACITOR-FXD 1.5UF +-10% 400VDC	28480	0160-6028
C2	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C3	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C4	0160-5471	9	13	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C5	0180-0228	6	1	CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
C6	0160-4832	4	1	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C7	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C8	0160-5469	5	9	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C9				NOT ASSIGNED		
C10	0160-4812	0	1	CAPACITOR-FXD 220PF +-5% 100VDC CER	28480	0160-4812
C11	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C12	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C13	0160-5466	2	6	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C14	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C15	0160-6192	3	1	CAPACITOR-FXD 0.047UF +-10% 63VDC	28480	0160-6192
C16	0160-4355	6	1	CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C17	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C18	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C19	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C20	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C21	0160-5468	4	1	CAPACITOR-FXD 0.47UF +-10% 50VDC	28480	0160-5468
C22	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C23	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C24	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C25	0180-2755	8	2	CAPACITOR-FXD 900UF+75-10% 25VDC AL	00853	300GJ901U025B
C26	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C27	0180-2755	8		CAPACITOR-FXD 900UF+75-10% 25VDC AL	00853	300GJ901U025B
C28	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C29	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C30	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C31	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C32	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C33	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C34-36				NOT ASSIGNED		
C37	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C38	0180-2866	2	1	CAPACITOR-FXD 22UF+100-10% 50VDC AL	28480	0180-2866
C39	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C40	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C41	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C42	0180-3250	0	2	CAPACITOR-FXD 2000UF+75-10% 12VDC AL	28480	0180-3250
C43	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C44	0180-3250	0		CAPACITOR-FXD 2000UF+75-10% 12VDC AL	28480	0180-3250
C45	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C46	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C47	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C48	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
CR1	1901-1148	2	3	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR2	1901-1148	2		DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR3				NOT ASSIGNED		
CR4	1901-1065	2	4	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR5	1901-1148	2		DIODE-PWR RECT 1KV 1A 750NS	04713	MR818

54110-66507 Analog Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
CR6	1906-0261	8	2	DIODE-CT-RECT 150V 16A	28480	1906-0261
CR7	1901-0050	3	8	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1906-0261	8		DIODE-CT-RECT 150V 16A	28480	1906-0261
CR9				NOT ASSIGNED		
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13				NOT ASSIGNED		
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1906-0262	9	2	DIODE-CT-RECT 100V 3A	9N171	UES 2402
CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1906-0262	9		DIODE-CT-RECT 100V 3A	9N171	UES 2402
CR19	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21				NOT ASSIGNED		
CR22	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR23	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
DS1	1990-0451	5	1	LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468
E1	0340-1074	2	5	INSULATOR-XSTR THRM-CNDCT TO-220	28480	0340-1074
E2	0340-1080	0	1	INSULATOR-XSTR THRM-CNDCT TO-3 (Q2)	28480	0340-1080
H1	0515-0372	2	9	SCREW-MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H2	0515-0664	5	12	SCREW-MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H3	3050-1140	1	5	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION
H4	0380-1238	4	1	STANDOFF M3 X 0.5	00000	ORDER BY DESCRIPTION
H5	0380-1239	5	2	STANDOFF	00000	ORDER BY DESCRIPTION
H6	0380-1701	6	1	SPACER 0.25-IN	00000	ORDER BY DESCRIPTION
H7	3050-1071	7	6	RECTANGLE-METAL 10.3MM X 5.6MM	00000	ORDER BY DESCRIPTION
H8	0515-1038	9	1	SCREW-MACH M3 35MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H9	2190-0763	7	1	WASHER-FLAT	28480	2190-0763
HS1	54110-01101	6	1	HEAT SINK-PRIMARY	28480	54110-01101
HS2	54100-01103	6	1	HEAT SINK-SECONDARY	28480	54100-01103
HS3	54100-21101	6	2	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
HS4	54100-21101	6		HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
J1	1251-8457	1	1	CONN-POST TYPE 0.197-PIN-SPCG 3-CONT	28480	1251-8457
L1	9140-0891	4	1	INDUCTOR-FIXED 27uH +/- 15%	28480	9140-0891
L2	9140-1077	0	1	INDUCTOR-FIXED	28480	9140-1077
L3	9140-0865	2	1	INDUCTOR-FIXED	28480	9140-0865
MP1	1400-0679	0	1	CLAMP CABLE	28480	1400-0679
MP2	54110-01208	4	1	BRACKET-SUPPORT	28480	54110-01208
P1	1251-8856	4	1	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8856
Q1	1855-0512	3	1	TRANSISTOR MOSFET N-CHAN E-MODE TO-220	72799	RCA9212A
Q2	1854-1071	9	1	TRANSISTOR NPN SI TO-3 PD=175W	04713	MJ16018
Q3	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	27014	2N3906
Q4				NOT ASSIGNED		
Q5	1854-0575	6	1	TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42

54110-66507 Analog Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R1	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R2	0757-0473	6		RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R3	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R4	0698-4539	7		RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R5	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R6	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R7	0757-0289	2		RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R8	0757-0440	7	3	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R9	0757-0452	1	1	RESISTOR 27.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2742-F
R10	0757-0449	6	4	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R11	0698-3451	0	1	RESISTOR 133K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1333-F
R12	0698-3167	5	1	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R13	0757-0283	6	5	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R14	0757-0384	8	1	RESISTOR 20 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-20R0-F
R15	0698-4002	9	11	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R16	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R17	0757-0401	0	3	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R18	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R19	0699-1075	2	1	RESISTOR 0.1 3% 3W MFS TC=0+-337	28480	0699-1075
R20	0816-0003	4	1	RESISTOR 500 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-501-J
R21	0683-0475	1	2	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R22	0757-0440	7		RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R23	0698-3690	9	2	RESISTOR 22 5% 1W MO TC=0+-200	28480	0698-3690
R24	0699-1153	7	4	RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R25	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R26	0757-0461	2	2	RESISTOR 68.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6812-F
R27	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R28	0698-3690	9		RESISTOR 22 5% 1W MO TC=0+-200	28480	0698-3690
R29	0698-4421	6	1	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R30	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R31	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R32	0757-0284	7	1	RESISTOR 150 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-151-F
R33				NOT ASSIGNED		
R34	0698-3446	3	1	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R35	0698-6250	3	1	RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2501-F
R36	0698-3498	5	1	RESISTOR 8.66K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-866R-F
R37	0757-0443	0	1	RESISTOR 11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1102-F
R38	0698-3159	5	1	RESISTOR 26.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2612-F
R39	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R40	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R41	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R42	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R43	0757-0427	0	1	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R44	0699-1313	1	1	RESISTOR 14K 0.1% 0.125W TF TC=0+-25	28480	0699-1313
R45	0698-6362	8	1	RESISTOR 1K 0.1% 0.125W TF TC=0+-25	28480	0698-6362
R46	0811-0041	0	1	RESISTOR 169 1% 4W PW TC=0+-20	28480	0811-0041
R47	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R48	0699-1153	7		RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R49	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R50	0757-0465	6	1	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R51	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R52	0698-3631	8	1	RESISTOR 330 5% 2W MO TC=0+-200	28480	0698-3631
R53	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R54				NOT ASSIGNED		
R55	0699-1153	7		RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R56	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R57	0757-0461	2		RESISTOR 68.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6812-F
R58	0698-3684	1	2	RESISTOR 12 5% 1W MO TC=0+-200	28480	0698-3684
R59	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R60	0698-3684	1		RESISTOR 12 5% 1W MO TC=0+-200	28480	0698-3684
R61	2100-3154	7	1	RESISTOR TRMR 10K 10% C SIDE ADJ 17-TURN	32997	3006P-1-102
R62	0698-4455	6	1	RESISTOR 536 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-536R-F
R63	0699-1203	8	1	RESISTOR 120 0.1% 0.125W TF TC=0+-25	28480	0699-1203
R64	0698-3178	8	1	RESISTOR 487 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-487R-F
R65	0757-0280	3	4	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R66	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R67-68				NOT ASSIGNED		
R69	0683-0475	1		RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R70	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R71	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R72	0699-1153	7		RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R73	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R74	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R75	0757-0459	8	1	RESISTOR 56.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5622-F
R76	0757-0443	0	1	RESISTOR 11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1102-F
R77	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R78	0811-3662	7	2	RESISTOR 82 5% 2W PW TC=0+-400	28480	0811-3662
R79	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R80	0811-3662	7		RESISTOR 82 5% 2W PW TC=0+-400	28480	0811-3662
R81	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R82-91				NOT ASSIGNED		
R92	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R93	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R94	0757-0440	7		RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R95	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
RT1	0837-0260	9	1	THERMISTOR-SWITCHING RESISTANCE: 100	28480	0837-0260
RT2	0837-0341	7	1	THERMISTOR DISC 50-OHM	28480	0837-0341
T1	9100-4383	3	1	TRANSFORMER	28480	9100-4383
T2	9100-4477	6	1	TRANSFORMER-POWER PRIMARY	28480	9100-4477
TP1	0360-1971	0	12	TERMINAL-TEST POINT	28480	0360-1971
TP2	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP3	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP4	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP5	0360-0042	4	1	TERMINAL-SLDR LUG	28480	0360-0042
TP6	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP7	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP8	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP9	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP10	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP11	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP12	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971
TP13	0360-1971	0		TERMINAL-TEST POINT	28480	0360-1971

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U1	1826-1120	0	1	IC MISC 20-DIP-C PKG	28480	1826-1120
U2	1990-1044	4	2	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U3	1990-1044	4		OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U4	1826-0524	6	1	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U5	1826-1126	6	1	IC OP AMP SPCL 8-DIP-P PKG	27014	LM392N
U6	1826-0643	0	1	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
U7	1826-0890	9	1	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U8	1826-0774	8	1	IC V RGLTR-V-REF-FXD 1.22/1.24V TO-92	27014	LM385BZ-1.2
U9-12				NOT ASSIGNED		
U13	1826-1216	5	1	IC V RGLTR-ADJ-POS 1.2/33V TO-220 PKG		LT350AT
VR1	1902-0939	9	1	DIODE-VOLTAGE SUPPRESSOR VR=5.0V,VC=8V	04713	1N5908
VR2	1902-0185	7	1	DIODE-ZNR 27.4V 5% DO-35 PD=.4W	28480	1902-0185
VR3	1902-3066	9	1	DIODE-ZNR 4.02V 2% DO-35 PD=.4W	28480	1902-3066
W1	54100-61612	8	1	CABLE-INPUT POWER	28480	54100-61612
XQ1	1200-0911	9	1	SOCKET-TRANSISTOR	28480	1200-0911
XQ2	1200-1101	1	1	SOCKET TO-3	28480	1200-1101

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6028	4	1	CAPACITOR-FXD 1.5UF +-10% 400VDC	28480	0160-6028
C2	0160-5471	9	12	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C3	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C4	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C5	0180-0309	4	1	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C6	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C7				NOT ASSIGNED		
C8	0160-4812	0	1	CAPACITOR-FXD 220PF +-5% 100VDC CER	28480	0160-4812
C9	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C10	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C11	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C12	0160-4832	4	2	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C13	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C14	0160-5466	2		CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C15	0160-6192	3	1	CAPACITOR-FXD 0.047UF +-10% 63VDC	28480	0160-6192
C16	0160-5377	4	2	CAPACITOR-FXD 2.2UF +-10% 63VDC	28480	0160-5377
C17	0160-6030	8	2	CAPACITOR-FXD 0.01UF +-5% 400VDC POLYP	28480	0160-6030
C18	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C19	0160-5847	3	2	CAPACITOR-FXD 0.22UF +-10% 100VDC	28480	0160-5847
C20	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C21	0160-5377	4		CAPACITOR-FXD 2.2UF +-10% 63VDC	28480	0160-5377
C22	0160-6030	8		CAPACITOR-FXD 0.01UF +-5% 400VDC POLYP	28480	0160-6030
C23	0160-5847	3		CAPACITOR-FXD 0.22UF +-10% 100VDC	28480	0160-5847
C24	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C25	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C26	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C27	0180-2866	2	1	CAPACITOR-FXD 22UF+100-10% 50VDC AL	28480	0180-2866
C28	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C29	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C30	0180-2890	2	2	CAPACITOR-FXD 7500UF+75-10% 6.3VDC AL	28480	0180-2890
C31	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C32	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C33	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C34	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C35	0160-4832	4		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C36	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C37	0180-2890	2		CAPACITOR-FXD 7500UF+75-10% 6.3VDC AL	28480	0180-2890
C38	0160-5469	5		CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C39	0160-5471	9		CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C40	0160-4355	6	1	CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C41	0160-4808	4		CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
CR1	1901-1148	2	3	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR2	1901-1148	2		DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR3	1901-1148	2		DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR4	1901-1065	2	4	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR5	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR6	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR7	1906-0239	0	2	DIODE-CT-S-BARR 45V 30A	1B546	VSK3040T
CR8	1906-0051	4	2	DIODE-FW BRDG 100V 1A	28480	1906-0051
CR9	1901-0050	3	10	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
CR11	1906-0239	0		DIODE-CT-S-BARR 45V 30A	1B546	VSK3040T
CR12	1906-0051	4		DIODE-FW BRDG 100V 1A	28480	1906-0051
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR19	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
DS1	1990-0451	5	1	LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468
E1	0340-0884	0	2	INSULATOR-XSTR THRM-CNDCT TO-3 (CR7,11)	28480	0340-0884
E2	0340-1074	2	3	INSULATOR-XSTR THRM-CNDCT TO-220	28480	0340-1074
E3	0340-1080	0	1	INSULATOR-XSTR THRM-CNDCT TO-3 (Q2)	28480	0340-1080
E4	0340-1103	8	4	INSULATOR	28480	0340-1103
H1	0515-0372	2	10	SCREW-MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H2	0515-0664	5	13	SCREW-MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H3	3050-1140	1	5	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION
H4	0380-1238	4	1	STANDOFF M3 X 0.5	00000	ORDER BY DESCRIPTION
H5	0380-1239	5	4	STANDOFF	00000	ORDER BY DESCRIPTION
H6	0380-1701	6	1	SPACER 0.25-IN	00000	ORDER BY DESCRIPTION
H7	3050-1071	7	3	RECTANGLE-METAL 10.3MM X 5.6MM	00000	ORDER BY DESCRIPTION
HS1	54110-01101	6	1	HEAT SINK-PRIMARY	28480	54110-01101
HS2	54100-01102	5	1	HEAT SINK-SECONDARY	28480	54110-01102
HS3	54100-21101	6	2	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
HS4	54100-21101	6		HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
J1	1251-8457	1	1	CONN-POST TYPE 0.197-PIN-SPCG 3-CONT	28480	1251-8457
L1	9140-0891	4	1	INDUCTOR-FIXED 27uH +/- 15%	28480	9140-0891
L2	9140-0870	9	1	INDUCTOR FIXED	28480	9140-0870
L3	9140-0867	4	1	INDUCTOR FIXED	28480	9140-0867
MP1	1400-0249	0	2	CLAMP CABLE	28480	1400-0249
MP2	54110-01209	5	1	BRACKET-SUPPORT	28480	54110-01209
P1	1251-8856	4	1	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8856
Q1	1855-0512	3	1	TRANSISTOR MOSFET N-CHAN E-MODE TO-220	72799	RCA9212A
Q2	1854-1071	9	1	TRANSISTOR NPN SI TO-3 PD=175W	04713	MJ16018
Q3	1854-0970	5	2	TRANSISTOR NPN SI DARL TO-220AB PD=2W	01295	TIP102
Q4	1854-0970	5		TRANSISTOR NPN SI DARL TO-220AB PD=2W	01295	TIP102
R1	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R2	0757-0473	6		RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R3	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R4	0698-4539	7		RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R5	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R6	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R7	0757-0289	2		RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R8	0757-0440	7	3	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F

54110-66506 Digital Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R9	0757-0452	1	1	RESISTOR 27.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2742-F
R10	0757-0449	6	4	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R11	0698-3451	0	1	RESISTOR 133K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1333-F
R12	0757-0283	6	3	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R13	0757-0384	8	1	RESISTOR 20 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-20R0-F
R14	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R15	0757-0401	0	4	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R16	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R17	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R18	0698-3167	5	2	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R19	0816-0003	4	1	RESISTOR 500 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-501-J
R20	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R21	0683-0475	1	2	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R22	0699-1075	2	1	RESISTOR 0.1 3% 3W MFS TC=0+-337	28480	0699-1075
R23	0757-0440	7		RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R24	0698-0093	0	2	RESISTOR 10 5% 1W MO TC=0+-200	28480	0698-0093
R25	0699-1118	4	2	RESISTOR 0.005 3% 5W MFS TC=0+-337	28480	0699-1118
R26	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R27	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R28	0698-3460	1	3	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R29	0698-3460	1		RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R30	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R31	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R32	0761-0057	1	2	RESISTOR 560 5% 1W MO TC=0+-200	28480	0761-0057
R33	0757-0123	3	4	RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R34	0698-3499	6	1	RESISTOR 40.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4022-F
R35	0698-3456	5	1	RESISTOR 287K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2873-F
R36	0698-0093	0		RESISTOR 10 5% 1W MO TC=0+-200	28480	0698-0093
R37	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R38	0761-0057	1		RESISTOR 560 5% 1W MO TC=0+-200	28480	0761-0057
R39	0757-0123	3		RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R40	0698-4421	6	1	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R41	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R42	0698-3159	5	1	RESISTOR 26.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2612-F
R43	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R44	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R45	0757-0427	0	1	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R46	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R47	0698-3446	3	1	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R48	0698-6250	3	2	RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2501-F
R49	0757-0434	9	2	RESISTOR 3.65K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3651-F
R50	0757-0434	9		RESISTOR 3.65K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3651-F
R51	0698-6250	3		RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2501-F
R52	0683-0475	1		RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R53	0757-0449	6		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R54	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R55	0699-0124	0	1	RESISTOR 10.2K 0.1% 0.125W TF TC=0+-25	28480	0699-0124
R56	2100-3123	0	1	RESISTOR-TRMR 500 10% TKF SIDE-ADJ	32997	3006P-1-501
R57	0698-6360	6	3	RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R58	0757-0123	3		RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R59	0757-0123	3		RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R60	0757-0439	4	2	RESISTOR 6.81K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6811-F

54110-66506 Digital Supply Assembly Replaceable Parts

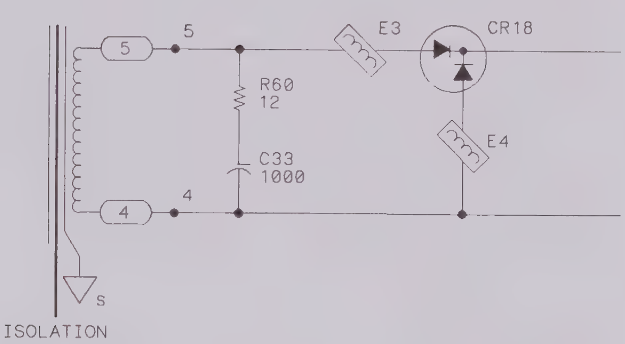
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R61	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R62	0698-3167	5		RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R63	0757-0439	4		RESISTOR 6.81K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6811-F
R64	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R65	0699-0241	2	2	RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R66	0698-6360	6		RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R67	0698-6360	6		RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R68	0699-0241	2		RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R69	0812-0070	7	2	RESISTOR 10 5% 5W PW TC=0+-20	28480	0812-0070
R70	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R71	0699-1118	4		RESISTOR 0.005 3% 5W MFS TC=0+-337	28480	0699-1118
R72	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R73	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R74	0698-3460	1		RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R75	0757-0441	8	1	RESISTOR 8.25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-8251-F
R76	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R77	0698-3158	4	1	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2372-F
R78	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R79	0698-6624	5	2	RESISTOR 2K 0.1% 0.125W TF TC=0+-25	28480	0698-6624
R80	0698-6624	5		RESISTOR 2K 0.1% 0.125W TF TC=0+-25	28480	0698-6624
R81	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R82	0812-0070	7		RESISTOR 10 5% 5W PW TC=0+-20	28480	0812-0070
R83	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R84	0757-0440	7		RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
RT1	0837-0260	9	1	THERMISTOR-SWITCHING RESISTANCE: 100	28480	0837-0260
T1	9100-4383	3	1	TRANSFORMER	28480	9100-4383
T2	9100-4545	9	1	TRANSFORMER-POWER PRIMARY	28480	9100-4545
T3	9140-0866	3	2	TRANSFORMER	28480	9140-0866
T4	9140-0866	3		TRANSFORMER	28480	9140-0866
TP1-4				NOT ASSIGNED		
TP5	0360-0042	4	2	TERMINAL-SLDR LUG	28480	0360-0042
TP6	0360-0042	4		TERMINAL-SLDR LUG	28480	0360-0042
TP7	0360-0042	4		TERMINAL-SLDR LUG	28480	0360-0042
U1	1826-1120	0	1	IC MISC 20-DIP-C PKG	28480	1826-1120
U2	1990-1044	4	2	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U3	1990-1044	4		OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U4	1826-0524	6	2	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U5	1826-0524	6		IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U6	1826-0774	8	1	IC V RGLTR-V-REF-FXD 1.22/1.24V TO-92	27014	LM385BZ-1.2
U7	1826-1126	6	1	IC OP AMP SPCL 8-DIP-P PKG	27014	LM392N
U8	1826-0890	9	1	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U9	1826-0643	0	2	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
U10	1826-0643	0		IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
VR1	1902-0939	9	1	DIODE-VOLTAGE SUPPRESSOR VR=5.0V,VC=8V	04713	1N5908
VR2	1902-3393	5	2	DIODE-ZNR 75V 5% DO-7 PD=.4W TC=+.077%	28480	1902-3393
VR3	1902-3393	5		DIODE-ZNR 75V 5% DO-7 PD=.4W TC=+.077%	28480	1902-3393
W1	54100-61612	8	1	CABLE-INPUT POWER	28480	54100-61612
XQ1	1200-0911	9	1	SOCKET-TRANSISTOR	28480	1200-0911
XQ2	1200-1101	1	1	SOCKET TO-3	28480	1200-1101

CHANGE 1 for 54110-66510, Analog Supply

Schematic 3

To reduce system noise two changes were made.The center lead of CR18 was cut off and beads were added to the two other leads. R76 was changed from 11K to 6.19K. The assembly number was changed from 54110-66507 to 54110-66510. The partial schematic shows the location of the added beads.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	R76 to	0757-0290	5	RESISTOR 6.19K 1% 0.125W	24546	CT4-1/8-T0
ADD:						
	E3	9170-0759	6	FERRITE BEAD	28480	9170-0759
	E4	9170-0759	6	FERRITE BEAD	28480	9170-0759



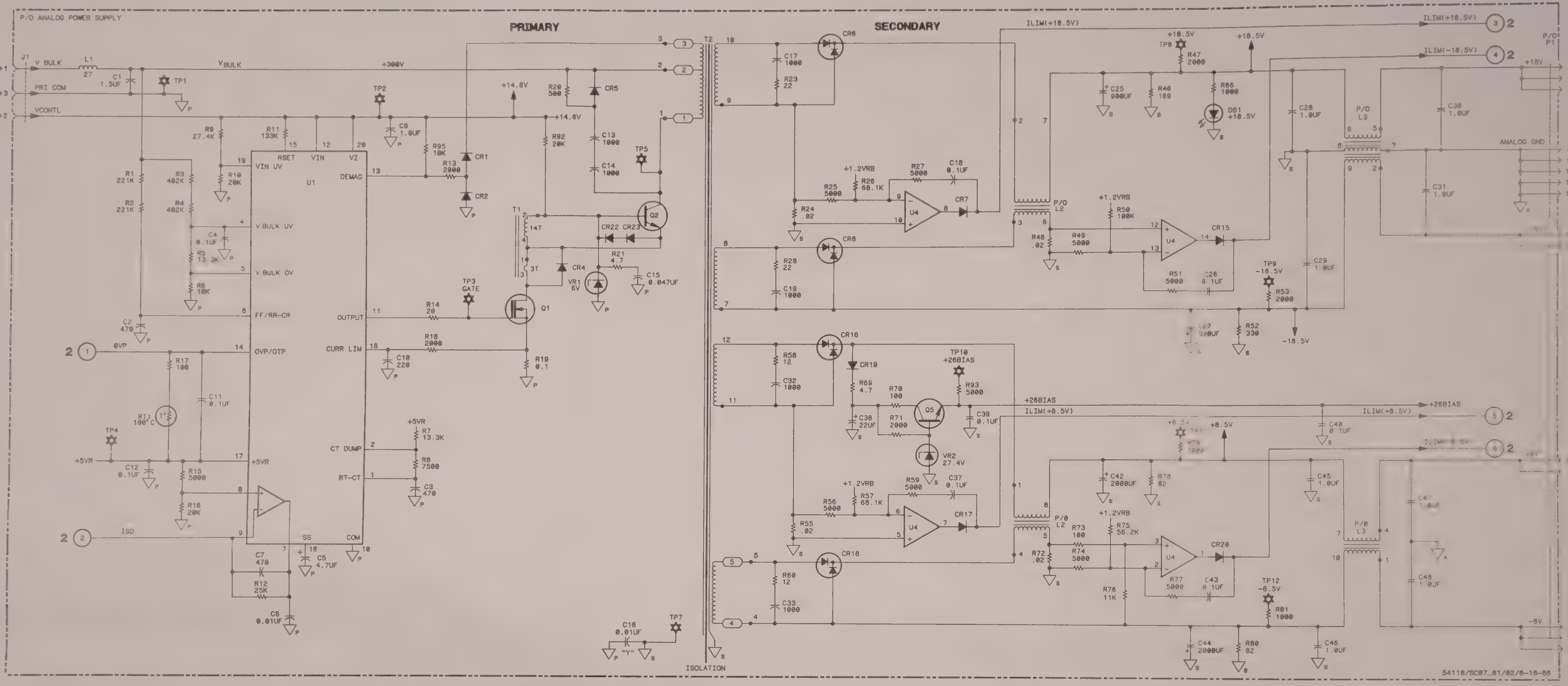
54110/SC10_01A/02/2-08-87

CHANGE 2 for 54110-66510, Analog Supply

Schematic 4

The adjustment for fan voltage was no longer needed so the potentiometer was replaced by a fixed resistor. There was no change to the assembly part number.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
R61 to	0698-3441	8	RESISTOR 215 1% 0.125W	24546	CT4-1/8-T0-215R-F


P/O ANALOG POWER SUPPLY
PRIMARY
SECONDARY
J1
V BULK
PRI COM
VCONTL
L1 27
C1 1.5UF
TP1
+300V
TP2
U1
VIN UV
RSET
VIN
VZ
DEMAG
V BULK UV
V BULK OV
FF/RR-CR
OVP/OTP
+5VR
OUTPUT
CURR LIM
CT DUMP
RT-CT
SS
COM
Q1
Q2
T1
T2
TP3 GATE
TP4
TP5
TP7
RT1 100°C
VR1 6V
C16 0.01UF
"Y"
ISOLATION
OVP
ISD
+14.6V
ILIM(+18.5V)
ILIM(-18.5V)
+18.5V
-18.5V
+26BIAS
ILIM(+8.5V)
ILIM(-8.5V)
+8.5V
-8V
+1.2VRB
U4
P/O L2
P/O L3
P/O P1
TP8
TP9
TP10 +26BIAS
TP11
TP12
DS1 +18.5V
Q5
VR2 27.4V
ANALOG GND
54110/SC07_01/02/6-18-86

ANALOG POWER SUPPLY

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
[illegible] [illegible]	4 11	U4

NOTES:

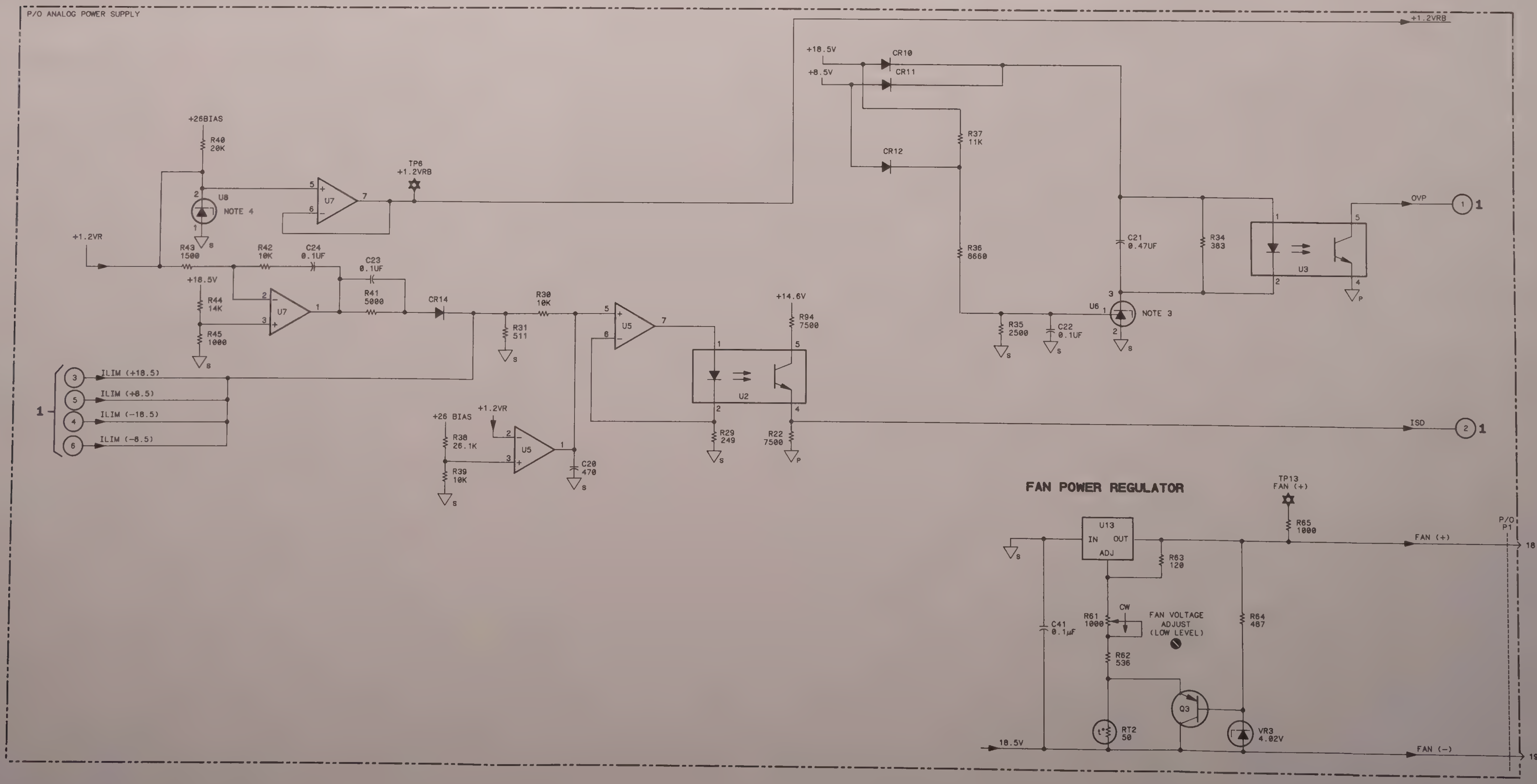
1. [illegible]
2. [illegible]
3. [illegible]

PARTS ON THIS SCHEMATIC

[illegible]	[illegible]

1

54110-6F50[illegible]


P/O ANALOG POWER SUPPLY
+1.2VRB
+18.5V
+8.5V
CR10
CR11
CR12
+26BIAS
R40 20K
U8 NOTE 4
U7
TP6 +1.2VRB
+1.2VR
R43 1500
R42 10K
C24 0.1UF
C23 0.1UF
R41 5000
R44 14K
R45 1000
CR14
R30 10K
R31 511
U5
+14.6V
R94 7500
U2
R29 249
R22 7500
ILIM (+18.5)
ILIM (+8.5)
ILIM (-18.5)
ILIM (-8.5)
+26 BIAS
R38 26.1K
R39 10K
C20 470
R37 11K
R36 8660
C21 0.47UF
R34 383
U3
OVP
U6 NOTE 3
R35 2500
C22 0.1UF
ISD
FAN POWER REGULATOR
TP13 FAN (+)
U13 IN OUT ADJ
R65 1000
R63 120
FAN (+)
C41 0.1µF
R61 1000
CW
FAN VOLTAGE ADJUST (LOW LEVEL)
R64 487
R62 536
Q3
RT2 50
VR3 4.02V
18.5V
FAN (-)
P/O P1

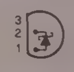
ANALOG POWER SUPPLY

IC DEVICE POWER CONNECTIONS

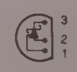
SUPPLY	PIN NO.	IC GROUP
+26BIAS GND	8 4	U5,7,9
-18.5V GND	4 8	U12

NOTES:

1. IS PRIMARY COMMON
2. IS SECONDARY COMMON
3. TOP VIEW OF U6



4. TOP VIEW OF U8

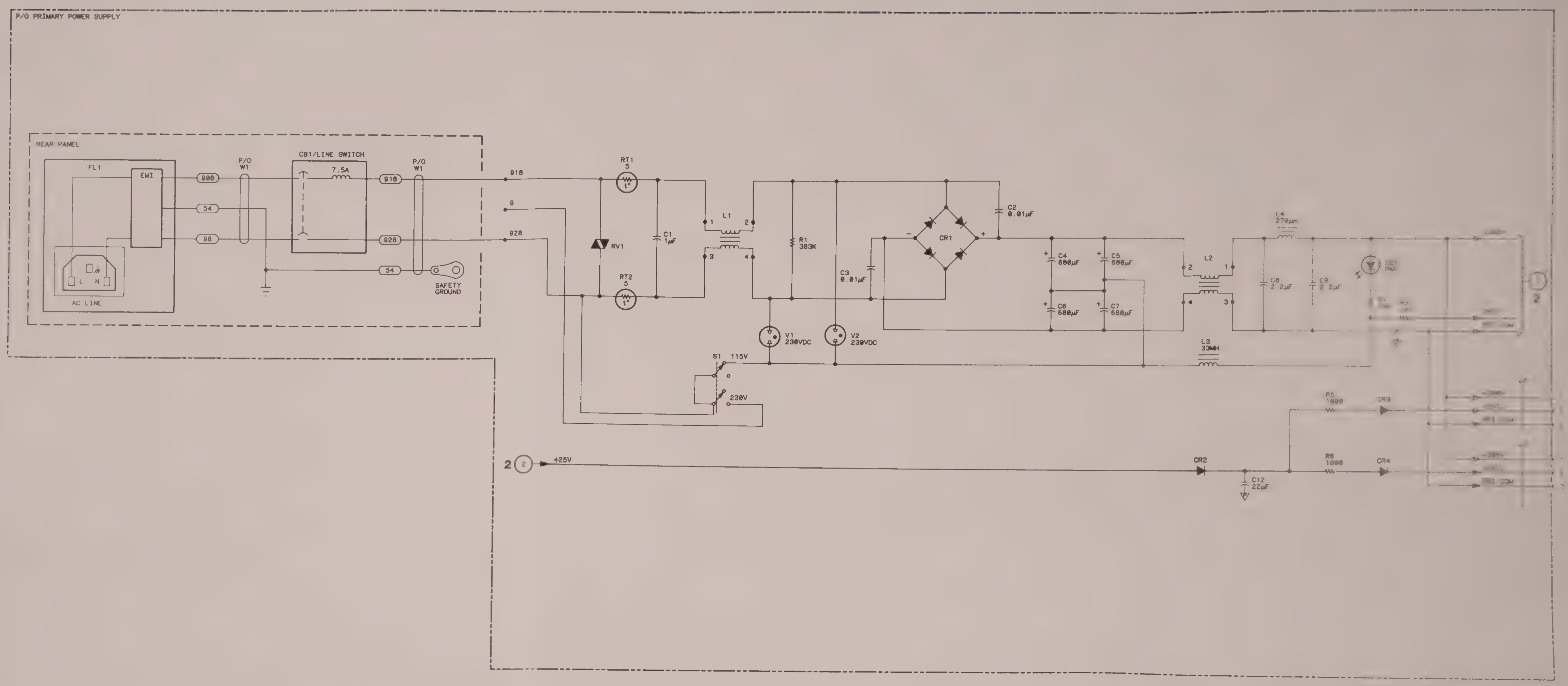


PARTS ON THIS SCHEMATIC

C20-24,34-35,41
CR9-14
P/O P1
Q3
R22,29-32,38-44,61-66,94
RT2
TP6,13
U2,3,5-8
VR3

54110/SC07_02/02/6-21-86

2


P/O PRIMARY POWER SUPPLY
REAR PANEL
FL1
EMI
AC LINE
L
N
P/O W1
CB1/LINE SWITCH
7.5A
908
54
98
918
928
SAFETY GROUND
918
9
928
RT1 5
RT2 5
RV1
C1 1µF
L1
1
2
3
4
R1 383K
C3 0.01µF
V1 230VDC
V2 230VDC
S1
115V
230V
CR1
C2 0.01µF
C4 680µF
C5 680µF
C6 680µF
C7 680µF
L2
L3 33µH
L4 270µH
C8 2.2µF
C9 2.2µF
DS1
2
+25V
CR2
C12 22µF
R5 1000
CR3
R6 1000
CR4

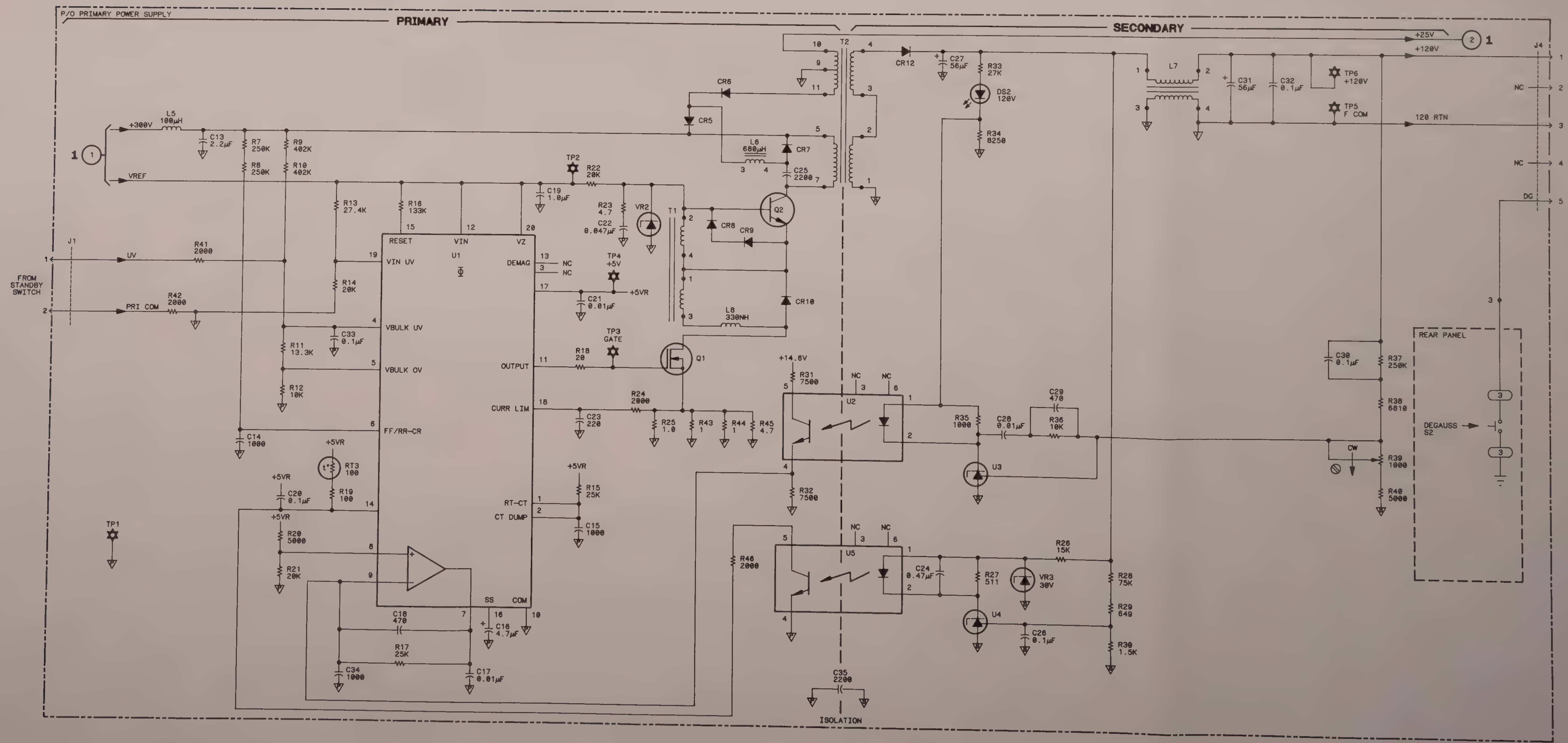
NOTES:

1. ⏚ IS PRIMARY COMMON
2. ⏚ IS CHASSIS GROUND

PARTS ON THIS SCHEMATIC	
AC POWER SUPPLY	
C1-9,12	S1
CB1	V1,2
CR1-4	
DS1	
FL1	
J2,3	
L1-4	
R1-3,5,6	
RT1,2	
RV1	

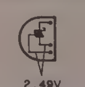
54110/SC13_01/02/7-87

1


P/O PRIMARY POWER SUPPLY
PRIMARY
SECONDARY
ISOLATION
1
+300V
VREF
L5 100µH
C13 2.2µF
R7 250K
R8 250K
R9 402K
R10 402K
J1
FROM STANDBY SWITCH
UV
PRI COM
R41 2000
R42 2000
R13 27.4K
R14 20K
R16 133K
R11 13.3K
R12 10K
C33 0.1µF
C14 1000
RT3 100
R19 100
+5VR
C20 0.1µF
R20 5000
R21 20K
TP1
U1
RESET
VIN
VZ
VIN UV
VBULK UV
VBULK OV
FF/RR-CR
DEMAG
OUTPUT
CURR LIM
RT-CT
CT DUMP
SS
COM
NC
C18 470
R17 25K
C34 1000
C16 4.7µF
C17 0.01µF
C19 1.0µF
TP2
R22 20K
R23 4.7
C22 0.047µF
VR2
TP4 +5V
C21 0.01µF
+5VR
TP3 GATE
R18 20
Q1
R24 2000
C23 220
R25 1.0
R43 1
R44 1
R45 4.7
R15 25K
C15 1000
T1
CR8
CR9
CR10
L8 330nH
Q2
CR5
CR6
CR7
L6 680µH
C25 2200
T2
CR12
C27 56µF
R33 27K
DS2 120V
R34 8250
L7
C31 56µF
C32 0.1µF
TP6 +120V
TP5 F COM
+25V
+120V
120 RTN
NC
DC
J4
+14.6V
R31 7500
R32 7500
U2
U5
R46 2000
R35 1000
C28 0.01µF
C29 470
R36 10K
U3
C24 0.47µF
R27 511
VR3 30V
R26 15K
R28 75K
R29 649
R30 1.5K
U4
C26 0.1µF
C35 2200
C30 0.1µF
R37 250K
R38 6810
R39 1000
R40 5000
CW
REAR PANEL
DEGAUSS S2

NOTES:

1. ⏚ IS PRIMARY COMMON
2. ⏚ IS SECONDARY COMMON
3. ⏚ IS CHASSIS GROUND
4. U3 AND U4 TOP VIEW

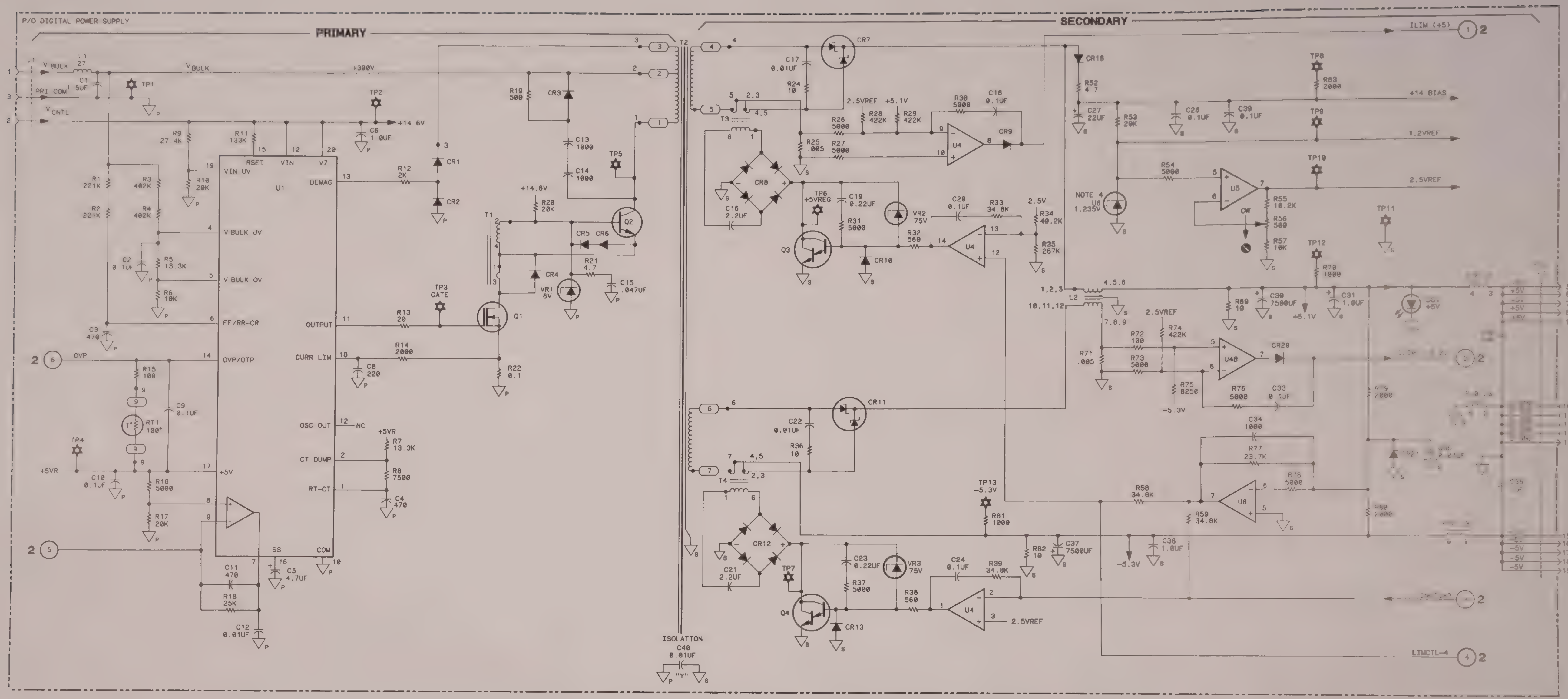


5. POWER SWITCH (ON/STBY) IS BETWEEN J1-1 AND J1-2.

PARTS ON THIS SCHEMATIC	
P/O AC POWER SUPPLY	
C13-21,22-35	U1-5
CR5-10,12	VR2,3
DS2	
J1,4	
L5-8	
Q1,2	
R7-46	
RT3	
S2	
T1,2	
TP1-6	

54110/SC13_02/02/01-89

2


P/O DIGITAL POWER SUPPLY
PRIMARY
SECONDARY
V BULK
L1 27
C1 .5UF
TP1
PRI COM
V CNTL
+300V
TP2
C6 1.0UF
+14.6V
R9 27.4K
R11 133K
RSET
VIN
VZ
VIN UV
DEMAC
U1
R1 221K
R2 221K
R3 402K
R4 402K
R10 20K
V BULK UV
V BULK OV
R5 13.3K
R6 10K
C2 0.1UF
FF/RR-CR
OUTPUT
OVP/OTP
CURR LIM
OSC OUT
CT DUMP
RT-CT
SS
COM
+5V
C3 470
OVP
R15 100
RT1 100°
C9 0.1UF
TP4
+5VR
C10 0.1UF
R16 5000
R17 20K
C11 470
R18 25K
C12 0.01UF
C5 4.7UF
R12 2K
R13 20
R14 2000
C8 220
NC
R7 13.3K
R8 7500
C4 470
TP3 GATE
Q1
R22 0.1
CR1
CR2
R19 500
CR3
C13 1000
C14 1000
TP5
T1
R20 20K
Q2
CR5
CR6
R21 4.7
CR4
VR1 6V
C15 .047UF
T2
ISOLATION
C40 0.01UF
"Y"
CR7
C17 0.01UF
R24 10
T3
CR8
C16 2.2UF
TP6 +5VREG
C19 0.22UF
R31 5000
VR2 75V
Q3
CR10
R25 .005
R26 5000
R27 5000
2.5VREF
+5.1V
R28 422K
R29 422K
R30 5000
C18 0.1UF
CR9
U4
C20 0.1UF
R33 34.8K
R32 560
R34 40.2K
R35 287K
2.5V
CR16
R52 4.7
C27 22UF
R53 20K
C28 0.1UF
C39 0.1UF
TP8
R83 2000
+14 BIAS
TP9
1.2VREF
R54 5000
U5
R55 10.2K
R56 500
R57 10K
CW
TP10
2.5VREF
NOTE 4 U6 1.235V
TP11
TP12
R70 1000
L2
C30 7500UF
C31 1.0UF
R69 10
+5.1V
R72 100
R74 422K
R73 5000
R71 .005
U4B
CR20
R75 8250
R76 5000
C33 0.1UF
-5.3V
ILIM (+5)
LIMCTL-4
CR11
C22 0.01UF
R36 10
T4
CR12
C21 2.2UF
TP7
C23 0.22UF
R37 5000
VR3 75V
Q4
CR13
R38 560
C24 0.1UF
R39 34.8K
TP13 -5.3V
R81 1000
R82 10
C37 7500UF
C38 1.0UF
C34 1000
R77 23.7K
R78 5000
R58 34.8K
R59 34.8K
U8
+5V
-5V

DIGITAL POWER SUPPLY

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
PRIMARY COMMON +14.6	14 20	[illegible]
+14BIAS SEC GND	4 [illegible]	4,5
+14BIAS SEC GND	8 4	8

NOTES:

1. [illegible] PRIMARY GROUND
2. [illegible] SECONDARY GROUND
3. [illegible] GROUND
4. [illegible]

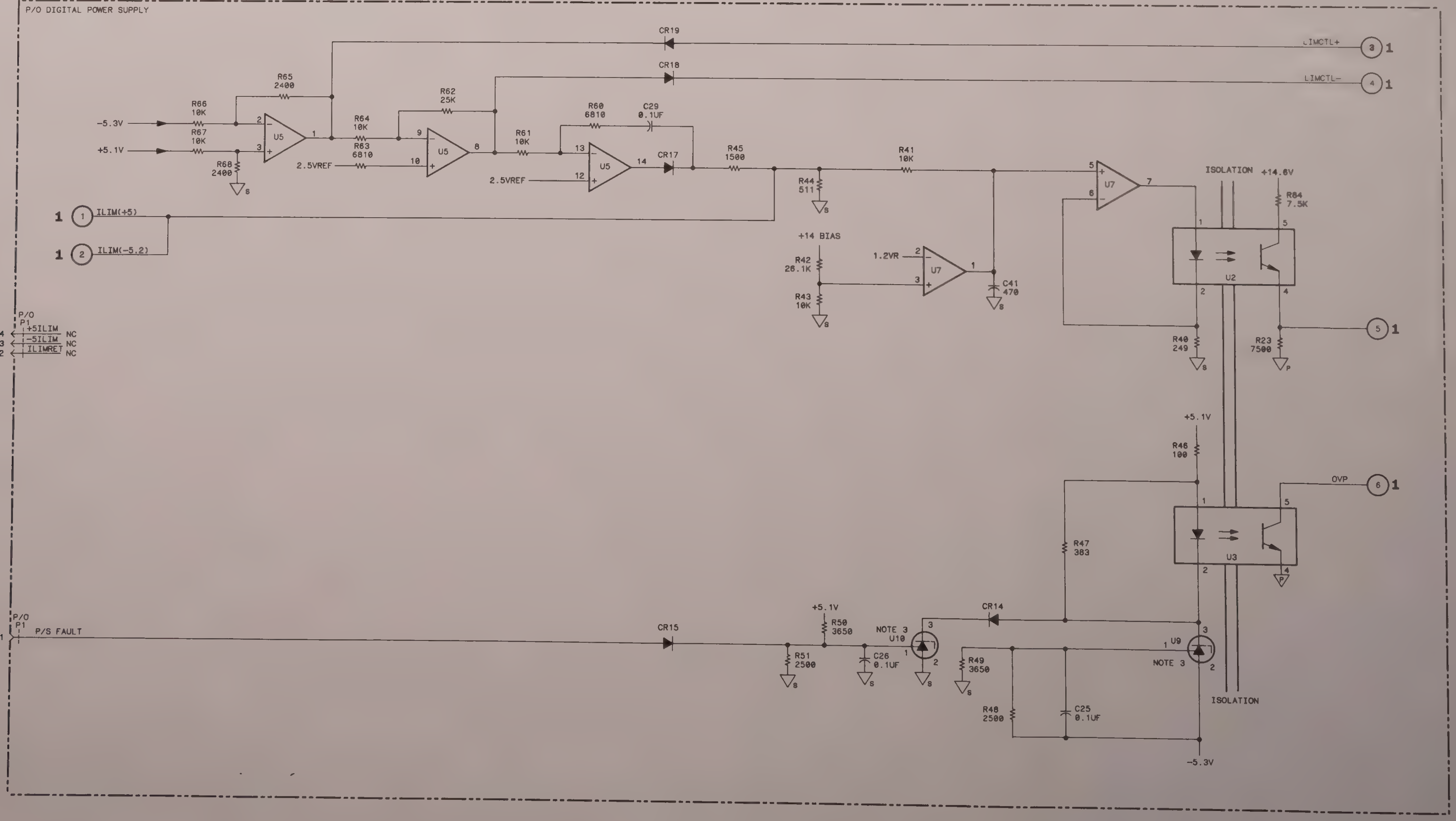
PARTS ON THIS SCHEMATIC

[illegible]

54110/SC06_01/02/6-20-86

1

54110-66506


P/O DIGITAL POWER SUPPLY
CR19
LIMCTL+
CR18
LIMCTL-
R65 2400
R62 25K
-5.3V
+5.1V
R66 10K
R67 10K
R68 2400
U5
R64 10K
R63 6810
2.5VREF
R61 10K
R60 6810
C29 0.1UF
CR17
R45 1500
R41 10K
R44 511
U7
ISOLATION
+14.6V
R84 7.5K
ILIM(+5)
ILIM(-5.2)
+14 BIAS
1.2VR
R42 28.1K
R43 10K
C41 470
U2
P/O P1
+5ILIM
-5ILIM
ILIMRET
NC
R40 249
R23 7500
+5.1V
R46 100
OVP
R47 383
U3
P/S FAULT
CR15
R50 3650
R51 2500
NOTE 3 U10
C26 0.1UF
CR14
R49 3650
U9
NOTE 3
R48 2500
C25 0.1UF
ISOLATION
-5.3V

DIGITAL POWER SUPPLY

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+14BIAS SEC GND	8 4	U7
+14BIAS SEC GND	4 11	U5

NOTES:

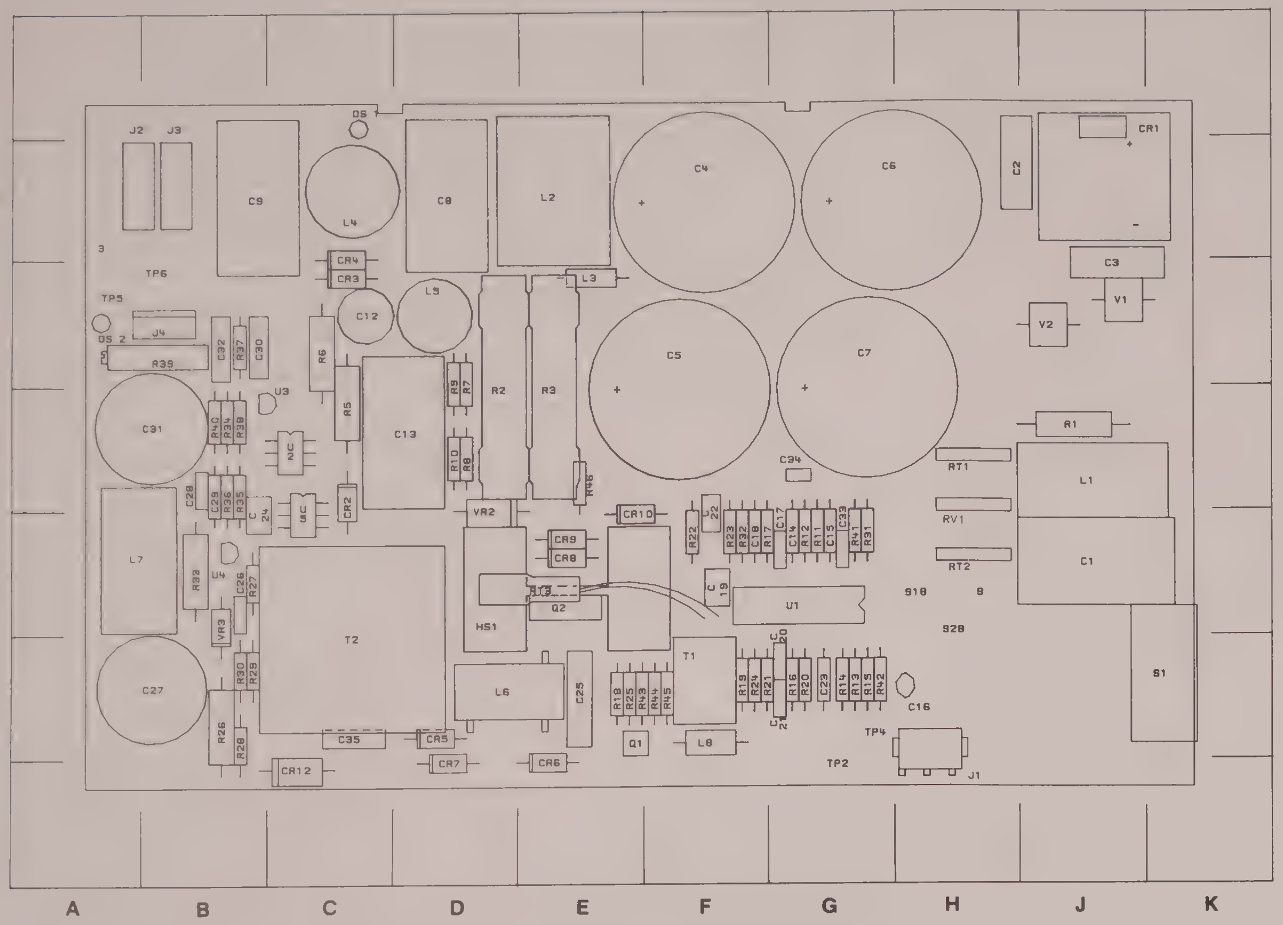
1. IS SECONDARY SIDE GROUND.
2. IS PRIMARY SIDE GROUND.
3. U9,10 TOP VIEW

PARTS ON THIS SCHEMATIC

C25,26,29,41
CR14,15,17-19
P/O P1
R23,40-51,60-68,84
U2,3,5,7,9,10

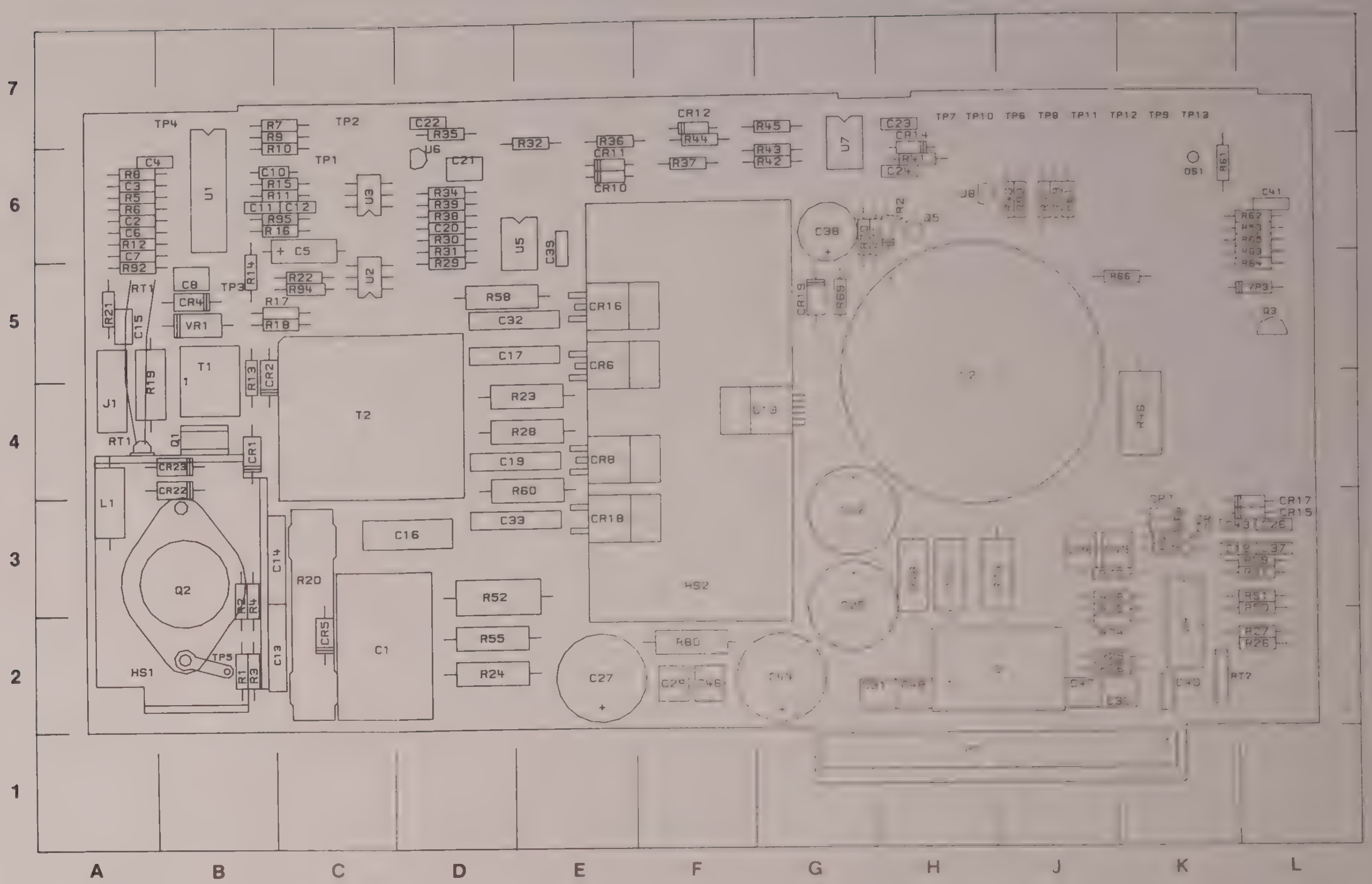
54110/SC06_02/02/6-20-86

2



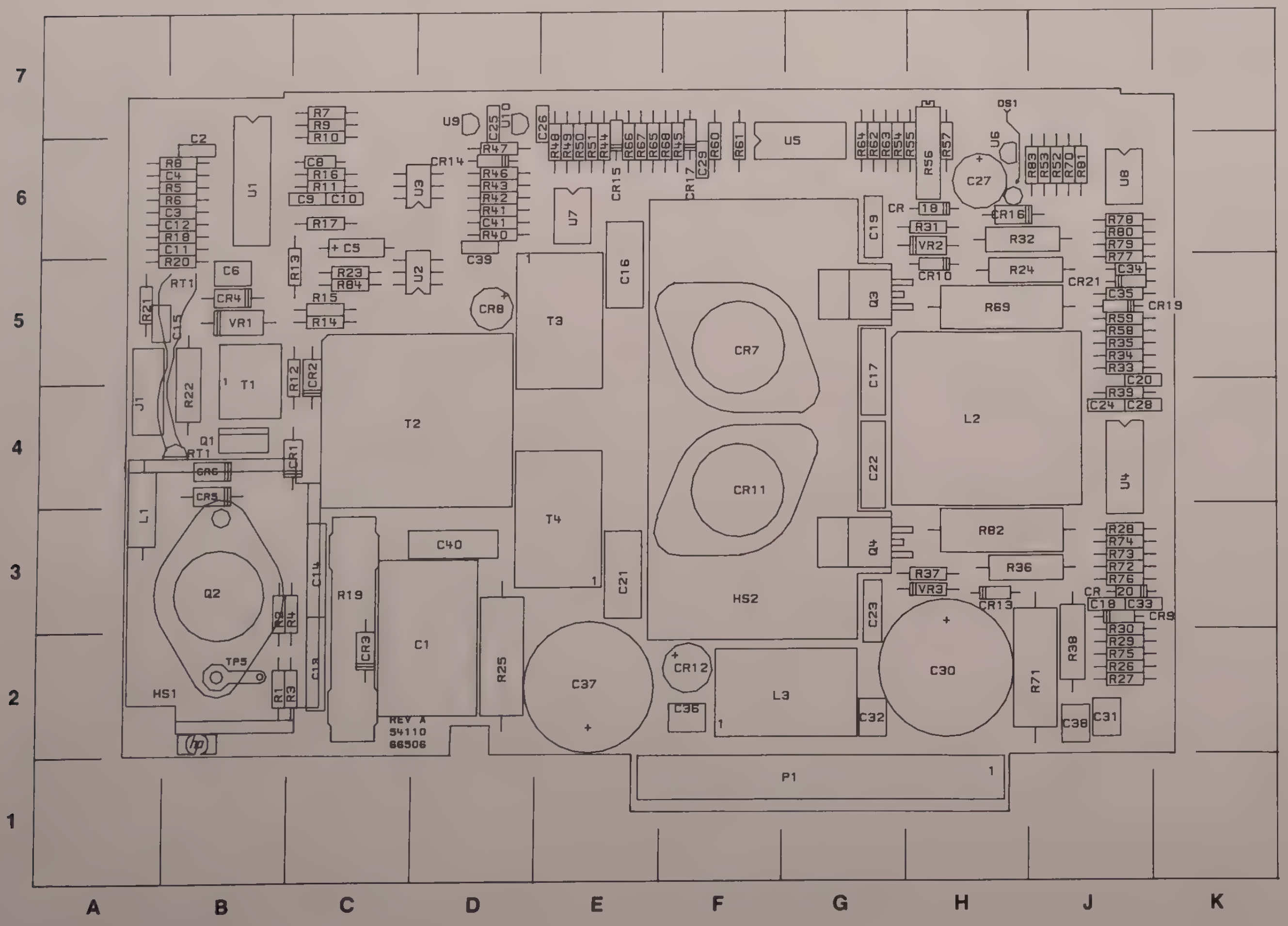
54110-66513 Primary Supply Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	J-3	C20	G-2	CR1	J-7	J2	A-6	R3	E-4	R21	F-2	R38	B-4	TP3	E-2
C2	H-6	C21	G-2	CR2	C-4	J3	B-6	R5	C-4	R22	F-3	R39	B-5	TP4	G-2
C3	J-5	C22	F-3	CR3	C-5	J4	B-5	R6	C-5	R23	F-3	R40	B-4	TP5	B-5
C4	F-6	C23	G-2	CR4	C-6			R7	D-4	R24	F-2	R41	G-2	TP6	B-5
C5	F-5	C24	B-3	CR5	D-1	L1	J-4	R8	D-4	R25	E-2				
C6	G-6	C25	E-2	CR6	D-1	L2	E-6	R9	D-4	R26	B-2			U1	G-3
C7	G-5	C26	B-3	CR7	D-2	L3	E-5	R10	D-4	R27	B-3	RT1	H-4	U2	C-4
C8	D-6	C27	B-2	CR8	E-3	L4	C-6	R11	G-3	R28	B-2	RT2	H-3	U3	B-4
C9	B-6	C28	B-4	CR9	E-3	L5	D-5	R12	G-3	R29	B-2	RT3	E-3	U4	B-3
C12	C-5	C29	B-4	CR10	E-3	L6	D-2	R13	G-2	R30	B-2			U5	C-4
C13	D-4	C30	B-5	CR12	C-1	L7	A-3	R14	G-2	R31	G-3	S1	K-2		
C14	G-3	C31	A-4	CR13	B-5			R15	G-2	R32	F-3			V1	J-5
C15	G-3	C32	B-5			Q1	F-1	R16	G-2	R33	B-3	T1	F-2	V2	J-5
C16	G-2	C33	G-3	DS1	C-7	Q2	E-3	R17	F-3	R34	B-4	T2	C-2		
C17	G-3	C34	G-4	DS2	A-5			R18	F-2	R35	B-4			VR1	H-4
C18	F-2	C35	C-2			R1	J-4	R19	F-2	R36	B-4	TP1	H-2	VR2	D-3
C19	F-3			J1	H-2	R2	D-4	R20	G-2	R37	B-5	TP2	G-2	VR3	B-3



54110-66507 Analog Supply Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	C-2	C26	L-3	CR5	C-2			R17	B-5	R42	G-6	[illegible]	[illegible]	[illegible]	[illegible]
C2	A-6	[illegible]	E-2	CR6	E-5	P1	H-1	R18	B-5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C3	A-6	[illegible]	J-3	CR7	K-3			[illegible]	A-5	[illegible]	[illegible]	R71	[illegible]	[illegible]	[illegible]
C4	A-6	[illegible]	F-2	CR8	E-4	Q1	E-4	R20	[illegible]	[illegible]	[illegible]	R72	[illegible]	TP4	[illegible]
C5	C-6	[illegible]	J-2	CR10	E-6	Q2	E-3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C6	A-6	[illegible]	G-2	CR11	E-6	Q3	[illegible]	[illegible]	C-5	[illegible]	[illegible]	[illegible]	[illegible]		
C7	A-6	[illegible]	D-5	CR12	F-7	Q5	H-6	[illegible]	E-4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C8	B-5	[illegible]	D-3	CR14	H-6			R24	D-2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
C10	B-6	C37	L-3	CR15	L-3	R1	B-2	R25	J-2	R50	L-2	R77	K-3	U3	C-6
C11	B-6	C38	G-6	CR16	E-5	R2	B-3	R26	L-2	R51	L-3	R78	H-3	U4	K-2
C12	C-6	C39	E-6	CR17	L-3	R3	B-2	R27	L-2	R52	D-3	R79	J-6	U5	E-6
C13	B-2	C40	K-2	CR18	E-3	R4	B-3	R28	E-4	R53	L-6	R80	F-2	U6	D-6
C14	B-3	C41	L-6	CR19	G-5	R5	A-6	R29	D-5	R55	D-2	R81	J-6	U7	G-6
C15	A-5	C42	G-3	CR20	K-3	R6	A-6	R30	D-6	R56	J-2	R92	A-5	U8	H-6
C16	D-3	C43	K-3	CR22	B-4	R7	B-7	R31	D-6	R57	L-3	R93	J-6	U13	G-4
C17	D-5	C44	G-2	CR23	B-4	R8	A-6	R32	E-7	R58	D-5	R94	C-5		
C18	K-3	C45	J-3			R9	B-7	R34	D-6	R59	L-3	R95	B-6	VR1	B-5
C19	D-4	C46	F-2	DS1	K-6	R10	B-6	R35	D-7	R60	E-4			VR2	H-6
C20	D-6	C47	J-2			R11	B-6	R36	E-7	R61	K-6	RT1	A-4	VR3	L-5
C21	D-6	C48	H-2	J1	A-4	R12	A-6	R37	F-6	R62	L-6	RT2	K-2		
C22	D-7					R13	B-5	R38	D-6	R63	L-5				
C23	H-7	CR1	B-4	L1	A-3	R14	B-5	R39	D-6	R64	L-5	T1	B-5		
C24	H-6	CR2	B-5	L2	H-4	R15	B-6	R40	J-6	R65	L-6	T2	C-4		
C25	G-3	CR4	B-5	L3	H-2	R16	B-6	R41	H-6	R66	K-5				



54110-66506 Digital Supply Component Locator

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C1	D-2	C26	D-7	CR8	D-5			R20	B-6	R44	E-6	R68	E-6		
C2	B-6	C27	H-6	CR9	J-3	Q1	B-4	R21	A-5	R45	F-6	R69	H-5	TP5	B-3
C3	B-6	C28	J-4	CR10	H-5	Q3	G-5	R22	B-4	R46	D-6	R70	J-6		
C4	B-6	C29	F-6	CR11	F-4	Q4	G-3	R23	C-5	R47	D-6	R71	J-2	U1	B-6
C5	C-6	C30	H-2	CR12	F-2			R24	H-5	R48	E-6	R72	J-3	U2	C-5
C6	B-5	C31	J-2	CR13	H-3	R1	B-2	R25	D-2	R49	E-6	R73	J-3	U3	C-6
C8	C-6	C32	G-2	CR14	D-6	R2	B-3	R26	J-2	R50	E-6	R74	J-3	U4	J-4
C9	C-6	C33	J-3	CR15	E-6	R3	B-2	R27	J-2	R51	E-6	R75	J-2	U5	G-6
C10	C-6	C34	J-5	CR16	H-6	R4	B-3	R28	J-3	R52	J-6	R76	J-3	U6	H-6
C11	B-6	C35	J-5	CR17	F-6	R5	B-6	R29	J-2	R53	J-6	R77	J-6	U7	E-6
C12	B-6	C36	F-2	CR18	H-6	R6	B-6	R30	J-3	R54	G-6	R78	J-6	U8	J-6
C13	C-2	C37	E-2	CR19	J-5	R7	C-7	R31	H-6	R55	G-6	R79	J-6	U9	D-7
C14	C-3	C38	J-2	CR20	J-3	R8	B-6	R32	H-6	R56	H-6	R80	J-6	U10	D-7
C15	A-5	C39	D-6	CR21	J-5	R9	C-7	R33	J-5	R57	H-6	R81	J-6		
C16	E-5	C40	D-3			R10	C-7	R34	J-5	R58	J-5	R82	H-3	VR1	B-5
C17	G-5	C41	D-6	DS1	H-6	R11	C-6	R35	J-5	R59	J-5	R83	J-6	VR2	H-6
C18	J-3					R12	B-5	R36	H-3	R60	F-6	R84	C-5	VR3	H-3
C19	G-6	CR1	B-4	J1	A-4	R13	C-5	R37	H-3	R61	F-6				
C20	J-5	CR2	C-5			R14	C-5	R38	J-2	R62	G-6	RT1	B-4		
C21	E-3	CR3	C-2	L1	A-3	R15	C-5	R39	J-4	R63	G-6				
C22	G-4	CR4	B-5	L2	H-4	R16	C-6	R40	D-6	R64	G-6	T1	B-5		
C23	G-3	CR5	B-4	L3	F-2	R17	C-6	R41	D-6	R65	E-6	T2	C-4		
C24	J-4	CR6	B-4			R18	B-6	R42	D-6	R66	E-6	T3	E-5		
C25	D-7	CR7	F-5	P1	G-1	R19	C-3	R43	D-6	R67	E-6	T4	E-3		

Component-level Information Packet

for HP 54111D, 54112D, 54120A/B

Motherboard and Keyboards

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Motherboard and Keyboard Assemblies Replaceable Parts

Motherboard 54110-66511

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-5467	3	4	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C2	0160-5467	3		CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C3	0160-5467	3		CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C4	0160-5467	3		CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
H1	0515-0430	3	4	SCREW-MACH M3 6MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1	1251-8855	3	2	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8855
J2	1251-8855	3		CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8855
J3	1252-1072	4	1	CONN-POST TYPE 0.150-PIN-SPCG 60-CONT	28480	1252-1072
J4	1251-8097	5	9	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J5	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J6	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J7	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J8	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J9	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J10	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J11	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J12	1251-8097	5		CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J13	1252-0161	0	2	CONN-POST TYPE 0.156-PIN-SPCG 2-CONT	28480	1252-0161
J14	1252-0161	0		CONN-POST TYPE 0.156-PIN-SPCG 2-CONT	28480	1252-0161
MP1	0160-5374	1	1	CAPACITOR-FXD (NOT USED ELECTRICALLY)	28480	0160-5374
RP1	1810-0685	7	4	NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP2	1810-0685	7		NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP3	1810-0685	7		NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP4	1810-0685	7		NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP5	1810-0681	3	4	NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP6	1810-0681	3		NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP7	1810-0681	3		NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP8	1810-0681	3		NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681

Control Keyboard 54100-66505

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
J1	1251-8474	2	1	CONN-POST TYPE 0.100-PIN-SPCG 34-CONT	28480	1251-8474
J2	1251-8671	1	2	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1251-8671
J3	1251-8671	1		CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1251-8671
J4	1251-4837	3	1	CONN-POST TYPE 2.5-PIN-SPCG 4-CONT	28480	1251-4837
MP1				NOT ASSIGNED		
MP2	1251-5595	2	1	POLARIZING KEY POST CONNECTOR	28480	1251-5595
MP3	5041-0268	5	7	KEYCAP	28480	5041-0268
MP4	5041-0268	5		KEYCAP	28480	5041-0268
MP5	5041-0268	5		KEYCAP	28480	5041-0268
MP6	5041-0268	5		KEYCAP	28480	5041-0268
MP7	5041-0268	5		KEYCAP	28480	5041-0268
MP8	5041-0268	5		KEYCAP	28480	5041-0268
MP9	5041-0268	5		KEYCAP	28480	5041-0268
MP10	5041-0906	8	1	KEYCAP 0	28480	5041-0906

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
				Control Keyboard 54100-66505 (cont'd)		
MP11	5041-0907	9	1	KEYCAP 1	28480	5041-0907
MP12	5041-0908	0	1	KEYCAP 2	28480	5041-0908
MP13	5041-0909	1	1	KEYCAP 3	28480	5041-0909
MP14	5041-0910	4	1	KEYCAP 4	28480	5041-0910
MP15	5041-0911	5	1	KEYCAP 5	28480	5041-0911
MP16	5041-0912	6	2	KEYCAP 6,9	28480	5041-0912
MP17	5041-0913	7	1	KEYCAP 7	28480	5041-0913
MP18	5041-0914	8	1	KEYCAP 8	28480	5041-0914
MP19	5041-0984	2	1	KEYCAP CLEAR	28480	5041-0984
MP20	5041-2942	6	1	KEYCAP USEC	28480	5041-2942
MP21	5041-2943	7	1	KEYCAP NSEC	28480	5041-2943
MP22	5041-2944	8	1	KEYCAP PSEC	28480	5041-2944
MP23	5041-2945	9	1	KEYCAP MSEC/MV	28480	5041-2945
MP24	5041-2946	0	1	KEYCAP SEC/VOLT	28480	5041-2946
MP25	5041-4547	1	2	KEYCAP ARROWS	28480	5041-4547
MP26	5041-4548	2	1	KEYCAP (.)	28480	5041-4548
MP27	5041-4549	3	1	KEYCAP (-)	28480	5041-4549
S1	3101-2947	7	27	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S7	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S8	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S9	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S10	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S11	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S12	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S13	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S14	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S15	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S16	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S17	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S18	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S19	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S20	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S21	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S22	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S23	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S24	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S25	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S26	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S27	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947

Function Keyboard 54110-66502

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
MP1	5041-0400	7	6	KEYCAP	28480	5041-0400
MP2	5041-0400	7		KEYCAP	28040	5041-0400
MP3	5041-0400	7		KEYCAP	28040	5041-0400
MP4	5041-0400	7		KEYCAP	28040	5041-0400
MP5	5041-0400	7		KEYCAP	28040	5041-0400
MP6	5041-0400	7		KEYCAP	28040	5041-0400
S1	3101-2947	7	8	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
W1	54100-61605	9	1	CABLE	28480	54100-61605

Menu Keyboard 54100-66520

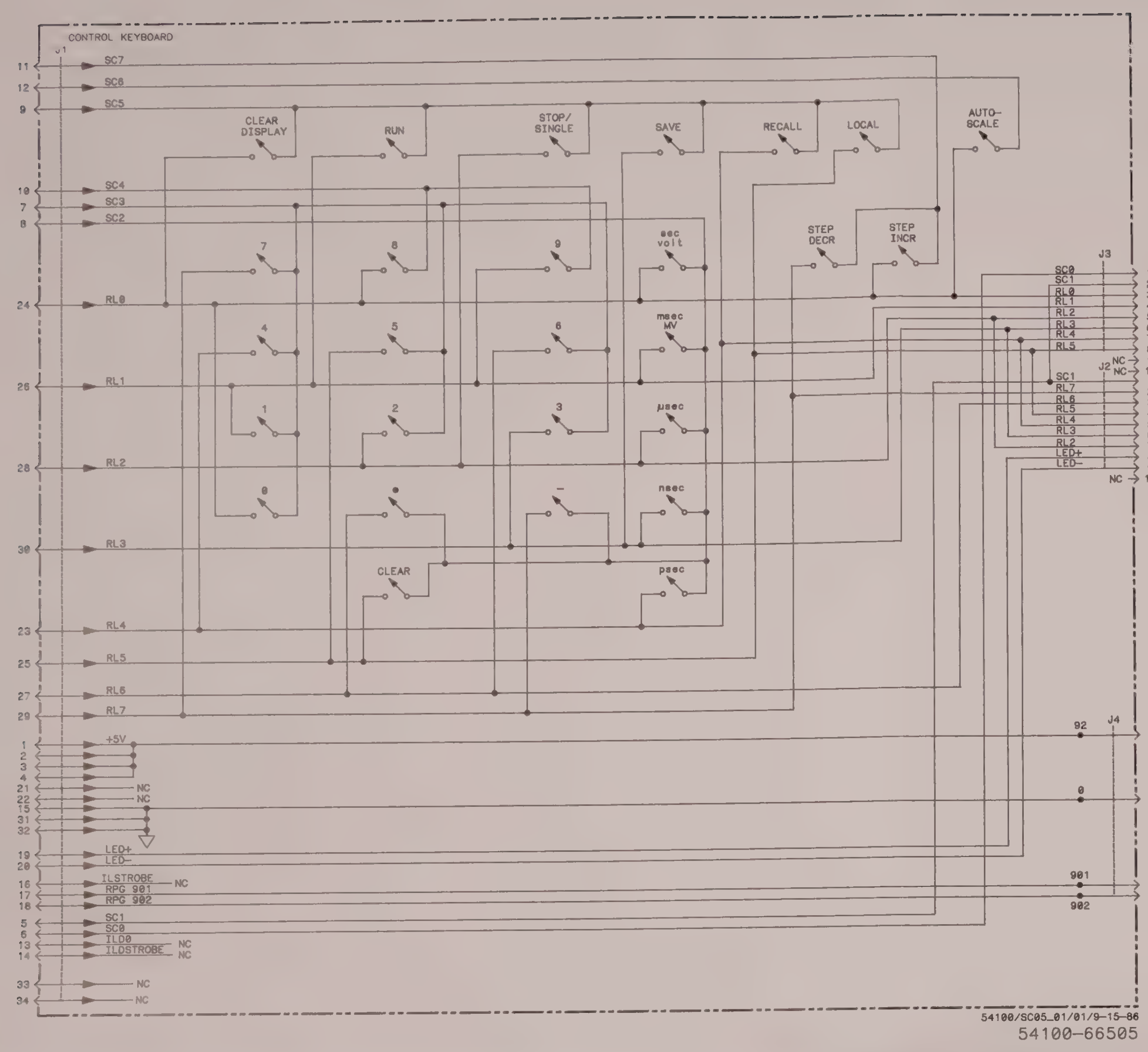
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
MP1	5041-0400	7	8	KEYCAP	28480	5041-0400
MP2	5041-0400	7		KEYCAP	28040	5041-0400
MP3	5041-0400	7		KEYCAP	28040	5041-0400
MP4	5041-0400	7		KEYCAP	28040	5041-0400
MP5	5041-0400	7		KEYCAP	28040	5041-0400
MP6	5041-0400	7		KEYCAP	28040	5041-0400
MP7	5041-0400	7		KEYCAP	28040	5041-0400
MP8	5041-0400	7		KEYCAP	28040	5041-0400
S1	3101-2947	7	8	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S7	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S8	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
W1	54100-61605	9	1	CABLE	28480	54100-61605

Display Control 54110-66509

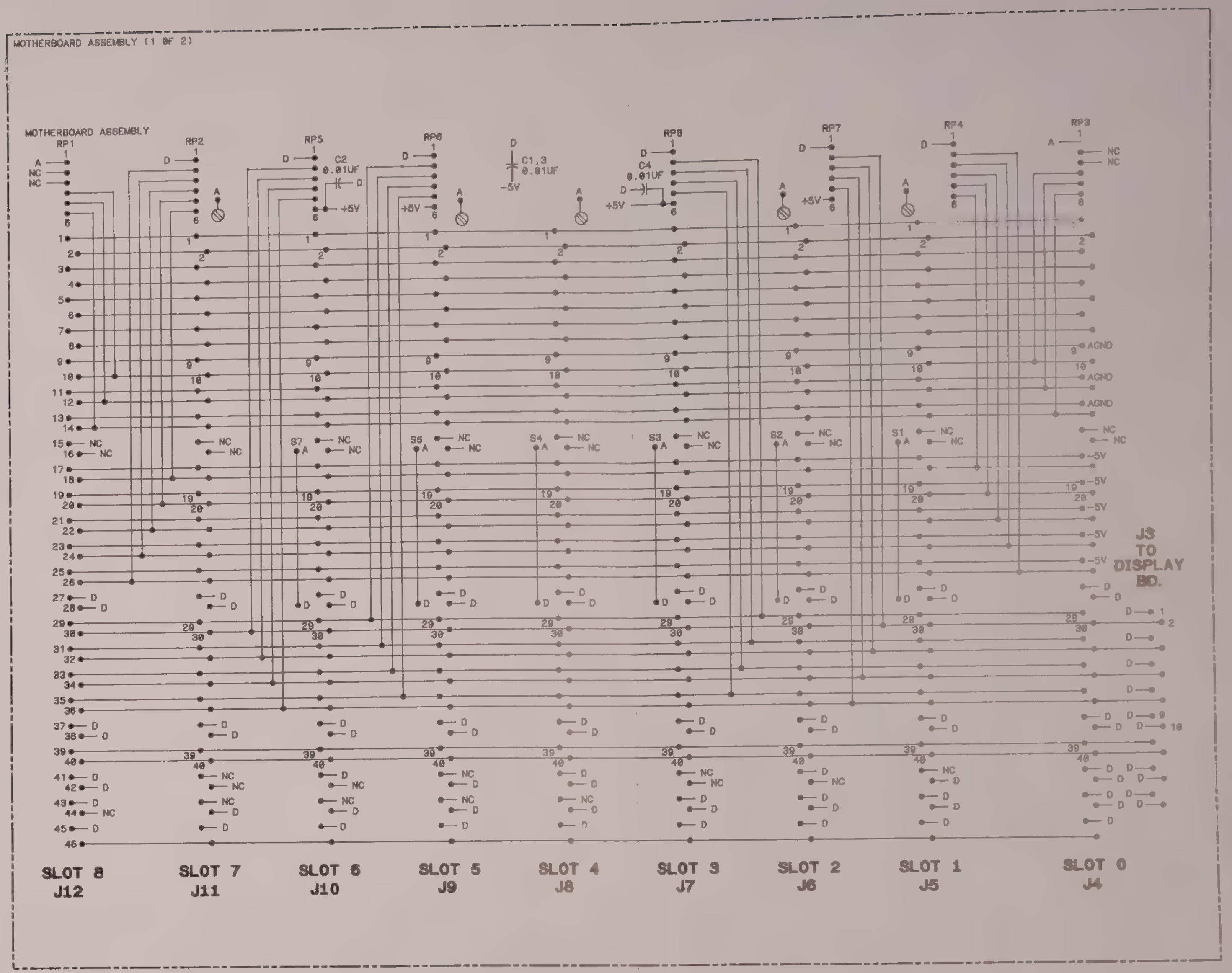
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
H1	2950-0071	2	2	NUT-HEX 1/4-32	00000	ORDER BY DESCRIPTION
H2	2190-0060	7	2	WASHER-INT LCK 0.25IN-ID 0.4IN-OD	00000	ORDER BY DESCRIPTION
J1	1251-4837	3	1	CONN-POST TYPE 2.5-PIN-SPCG 4-CONT	28480	1251-4837
R1	2100-4119	6	2	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119
R2	2100-4119	6		RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119

Display Control 54111-66514

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
H1	2950-0071	2	2	NUT-HEX 1/4-32	00000	ORDER BY DESCRIPTION
H2	2190-0060	7	2	WASHER-INT LCK 0.25IN-ID 0.4IN-OD	00000	ORDER BY DESCRIPTION
J1	1251-6000	6	1	CONN-POST TYPE 2.5-PIN-SPCG 5-CONT	28480	1251-6000
R1	2100-4119	6	2	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119
R2	2100-4119	6		RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119

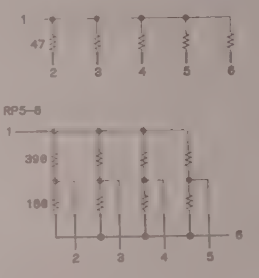

CONTROL KEYBOARD
SC7
SC6
SC5
CLEAR DISPLAY
RUN
STOP/ SINGLE
SAVE
RECALL
LOCAL
AUTO-SCALE
SC4
SC3
SC2
STEP DECR
STEP INCR
sec volt
msec MV
µsec
nsec
psec
CLEAR
RL0
RL1
RL2
RL3
RL4
RL5
RL6
RL7
J3
J2
J4
+5V
LED+
LED-
ILSTROBE
RPG 901
RPG 902
SC1
SC0
ILD8
ILDSTROBE
NC
54100/SC05_01/01/9-15-86

54100-66505


MOTHERBOARD ASSEMBLY (1 OF 2)
MOTHERBOARD ASSEMBLY
RP1
RP2
RP5
RP6
RP8
RP7
RP4
RP3
C2 0.01UF
C1,3 0.01UF
C4 0.01UF
+5V
-5V
AGND
S1
S2
S3
S4
S5
S6
S7
NC
J3 TO DISPLAY BD.
SLOT 8 J12
SLOT 7 J11
SLOT 6 J10
SLOT 5 J9
SLOT 4 J8
SLOT 3 J7
SLOT 2 J6
SLOT 1 J5
SLOT 0 J4

NOTES:

1. A IS TO ANALOG GROUND
   D IS TO DIGITAL GROUND
2. RP1-4


47
RP5-8
390
180

3. ⊘ SCREWS TO CHASSIS OF INSTRUMENT

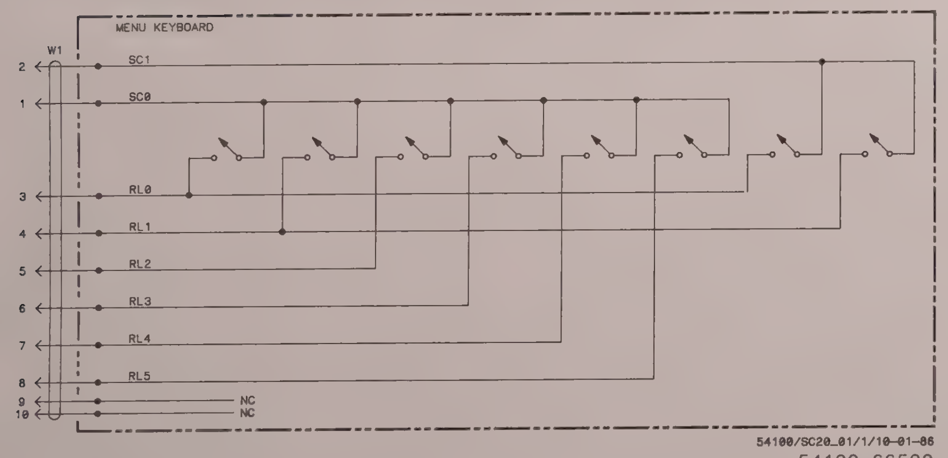
PARTS ON THIS SCHEMATIC

54110/SC11_01/02/4-87

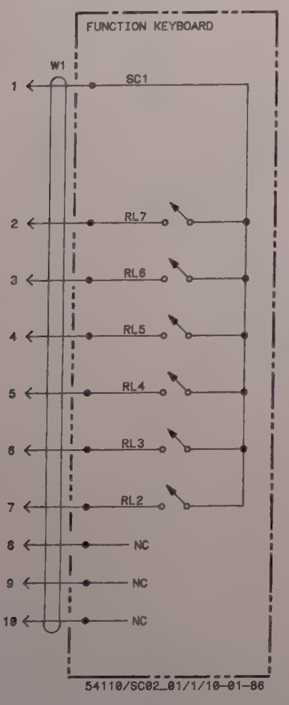
1

Motherboard (Part 1)

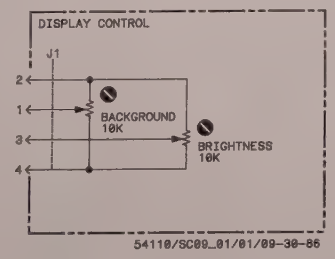
54110-66501


MENU KEYBOARD
W1
SC1
SC0
RL0
RL1
RL2
RL3
RL4
RL5
NC
54100/SC20_01/1/10-01-86

54100-66520

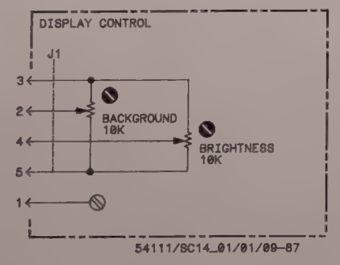

FUNCTION KEYBOARD
W1
SC1
RL7
RL6
RL5
RL4
RL3
RL2
NC
54110/SC02_01/1/10-01-86

54110-66502


DISPLAY CONTROL
J1
BACKGROUND 10K
BRIGHTNESS 10K
54110/SC09_01/01/09-30-86

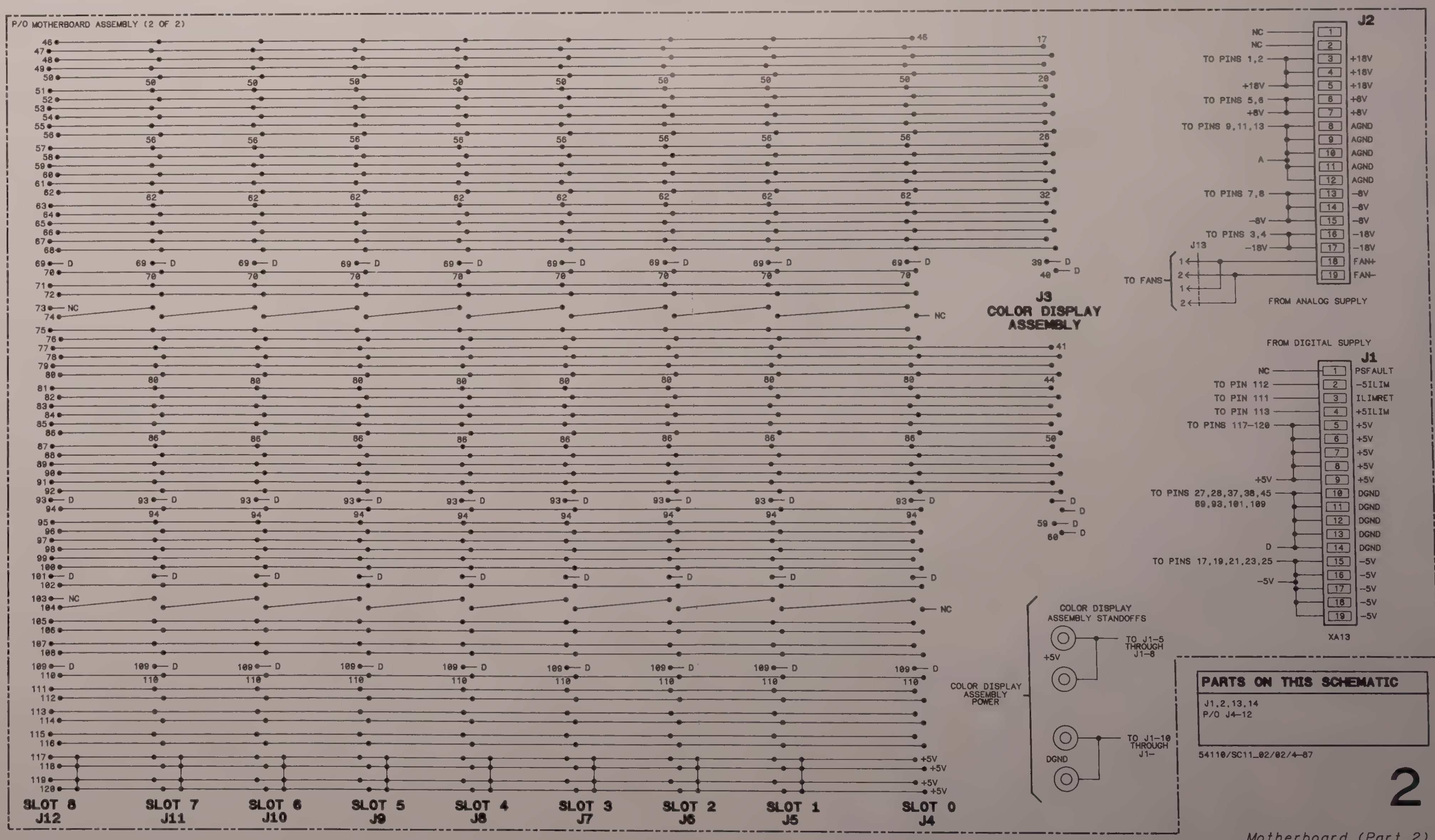
DISPLAY CONTROL FOR:
54111D
54120A/D

54110-66509


DISPLAY CONTROL
J1
BACKGROUND 10K
BRIGHTNESS 10K
54111/SC14_01/01/09-87

DISPLAY CONTROL FOR:
54112D

54111-66514


P/O MOTHERBOARD ASSEMBLY (2 OF 2)
J3 COLOR DISPLAY ASSEMBLY
J2
TO PINS 1,2
TO PINS 5,6
TO PINS 9,11,13
TO PINS 7,8
TO PINS 3,4
+18V
+8V
AGND
-8V
-18V
FAN+
FAN-
J13
TO FANS
FROM ANALOG SUPPLY
FROM DIGITAL SUPPLY
J1
PSFAULT
-SILIM
ILIMRET
+SILIM
TO PIN 112
TO PIN 111
TO PIN 113
TO PINS 117-120
TO PINS 27,28,37,38,45 88,93,101,109
TO PINS 17,19,21,23,25
+5V
DGND
-5V
XA13
COLOR DISPLAY ASSEMBLY STANDOFFS
COLOR DISPLAY ASSEMBLY POWER
TO J1-5 THROUGH J1-8
TO J1-10 THROUGH J1-
NC
SLOT 8 J12
SLOT 7 J11
SLOT 6 J10
SLOT 5 J9
SLOT 4 J8
SLOT 3 J7
SLOT 2 J6
SLOT 1 J5
SLOT 0 J4

PARTS ON THIS SCHEMATIC

J1,2,13,14
P/O J4-12

54110/SC11_02/02/4-87

2

Motherboard (Part 2)

54110-66511

Component-level Information Packet

for HP 54111D, 54112D, 54120A/B

Input/Output Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

54111-66506 Input/Output Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
BT1	1420-0273	2	1	BATTERY 3V 1.2A-HR LITHIUM POLYCARBON	28480	1420-0273
C1	0160-6500	7	69	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-4574	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41-42				NOT ASSIGNED		
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47				NOT ASSIGNED		
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49				NOT ASSIGNED		
C50	0180-0229	7	5	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C51	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C52	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C53	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C54	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C55	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56				NOT ASSIGNED		
C57	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C60	0180-0228	6	1	CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
C61	0160-5469	5	1	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C62	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C65	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69	0160-4810	8	1	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C70	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C73	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C75	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C78	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C79	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
CR1	1901-0050	3	24	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR2	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR3	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR5	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR9	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
CR16	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR19	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR22	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR23	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR24	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
DL1	1813-0262	2	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	56289	FSDM1-180
DL2	1813-0263	3	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	56289	DSP-223
DS1	1990-0485	5	1	LED-LAMP LUM-INT=2MCD IF=30MA-MAX BVR=5V	28480	HLMP-1503
F1	2110-0384	0	1	FUSE 0.062A 125V AX	28480	2110-0384
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1	1251-8474	2	1	CONN-POST TYPE 0.1-PIN-SPCG 34-CONT	28480	1251-8474
J2	1252-0003	9	1	CONN-POST TYPE 0.1-PIN-SPCG 24-CONT	28480	1252-0003
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54111-00604	1	1	SHIELD I/O ASSEMBLY	28480	54111-00604
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	2	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
Q2	1853-0234	2	1	TRANSISTOR PNP SI PD=65W FT=3MHZ	01295	TIP42A
Q3	1854-0215	1		TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
R1	0698-6631	4	1	RESISTOR 2.5K 0.1% 0.125W TF TC=0+-25	28480	0698-6631
R2	0699-1000	3	1	RESISTOR 4.25K 0.1% 0.125W TF TC=0+-25	28480	0699-1000
R3	0698-6688	1	2	RESISTOR 99.8K 0.1% 0.125W TF TC=0+-25	28480	0698-6688
R4	0698-6688	1		RESISTOR 99.8K 0.1% 0.125W TF TC=0+-25	28480	0698-6688
R5	0757-0442	9	3	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R6	0698-3443	0	1	RESISTOR 287 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-287R-F
R7	0757-0280	3	1	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R8	0699-0241	2	1	RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R9	0699-1011	6	1	RESISTOR 3.32K 0.1% 0.125W TF TC=0+-25	28480	0699-1011
R10	0698-4421	6	2	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R11	0757-0274	5	1	RESISTOR 1.21K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1211-F
R12	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R13	0757-0283	6	3	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R14	0757-0449	6	1	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R15	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R16	0757-0283	6		RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R17				NOT ASSIGNED		
R18	0698-0082	7	1	RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R19	0698-3540	8	1	RESISTOR 15.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1542-F
R20	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R21				NOT ASSIGNED		
R22	0757-0273	4	16	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R23	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R24	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R25	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R26	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R27	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R28	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R29	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R30	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R31	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R32	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R33	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R34	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R35	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R36	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R37	0757-0273	4		RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R38	0757-0407	6	5	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R39	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R40	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R41	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R42	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R43	0698-4421	6		RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R44	0757-0454	3	8	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R45	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R46	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R47	0698-3460	1	1	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R48	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R49	0757-0472	5	1	RESISTOR 200K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2003-F
R50	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R51	0698-4519	3	1	RESISTOR 140K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1403-F
R52	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R53	0698-3158	4	1	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2372-F
R54	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R55	0698-4501	3	1	RESISTOR 59K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5902-F
R56	0757-0454	3		RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R57	0698-3243	8	1	RESISTOR 178K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1783-F
R58	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R59	0757-0410	1	2	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
R60	0757-0346	2	1	RESISTOR 10 1% 0.125W TF TC=0+-100	28480	0757-0346
R61	0757-0416	7	2	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R62	0757-0416	7		RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R63	0683-2225	3	1	RESISTOR 2.2K 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-2K2
R64	0757-0180	2	1	RESISTOR 31.6 1% 0.125W TF TC=0+-100	28480	0757-0180
R65	0757-0410	1		RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
RP1	1810-0231	9	1	NETWORK-RES 8-SIP 2.2K OHM X 7	28480	1810-0231
RP2	1810-0275	1	6	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP3	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP4	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP5	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP6	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP7	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP8	1810-0533	4	3	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
RP9	1810-0533	4		NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
RP10	1810-0533	4		NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533

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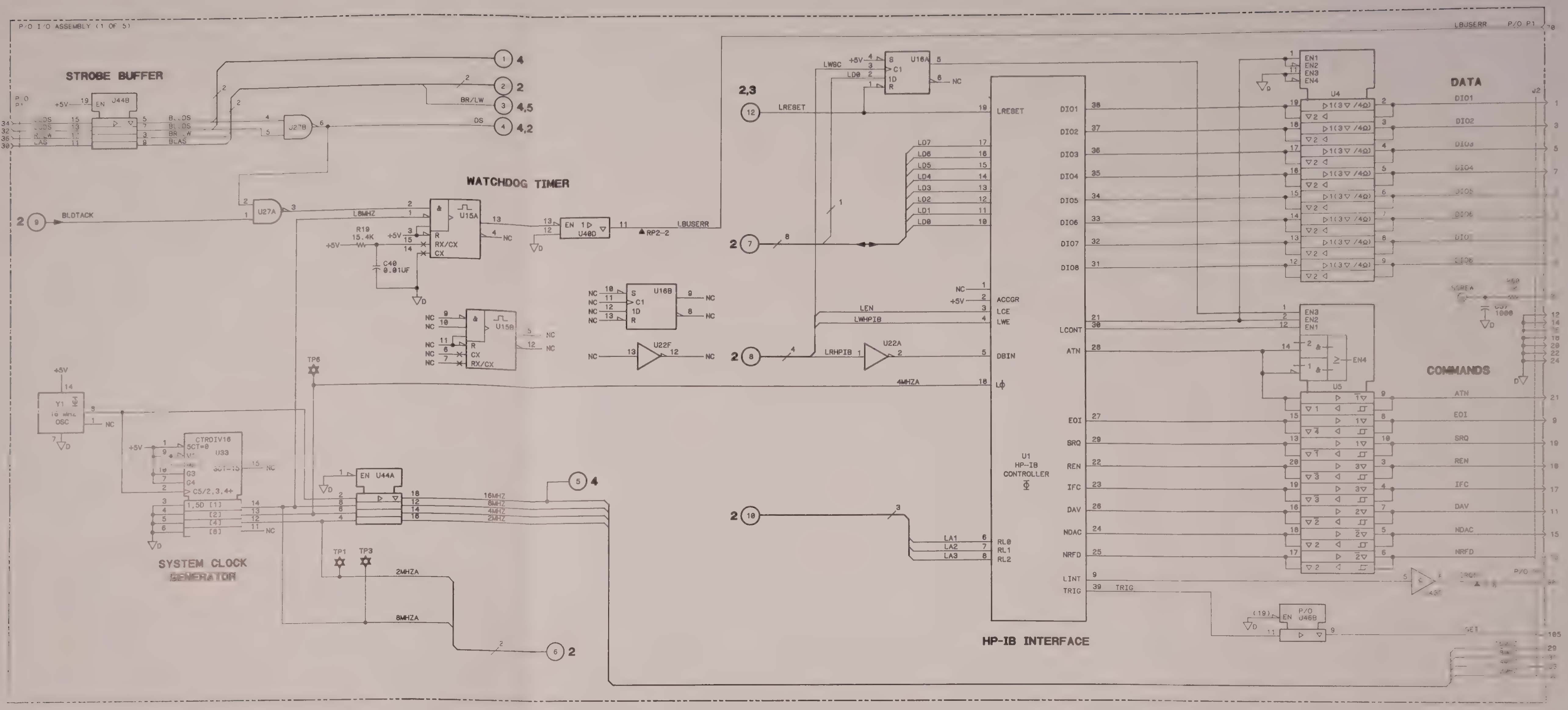
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
S1	3101-2671	4	1	SWITCH-PB SPST-NO MOM 0.02A	28480	3101-2671
U1	1820-2548	6	1	IC-GENERAL PURPOSE INTERFACE BUS ADAPTER	01295	TMS9914ANL
U2	1826-0138	8	4	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U3	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U4	1820-3431	8	1	IC-INTERFACE XCVR BCD UP/DOWN INSTRUMENT	27014	DS75160AN
U5	1820-3518	2	1	IC-INTERFACE XCVR BCD UP/DOWN INSTRUMENT	27014	DS75162AN
U6	1820-2024	3	4	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U7	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U8	1820-1307	3	1	IC SCHMITT-TRIG TTL S NAND QUAD 2-INP	01295	SN74S132N
U9				NOT ASSIGNED		
U10	1820-2695	4	3	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	MC74F158N
U11	1820-2695	4		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	MC74F158N
U12	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U13	1820-1112	8	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U14	1820-2096	9	3	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U15	1820-1423	4	1	IC MV TTL LS MONOSTBL RETRIG DUAL	01295	SN74LS123N
U16	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U17				NOT ASSIGNED		
U18	1820-2688	5	1	IC GATE TTL F AND TPL 3-INP	04713	MC74F11N
U19	1820-2096	9		IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U20	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U21	1820-2150	6	1	IC-PROGRAMMABLE KEYBOARD/DISPLAY	34649	D8279-5
U22	1820-1199	1	3	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U23	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U24	1820-1451	8	1	IC GATE TTL S NAND QUAD 2-INP	01295	SN74S38N
U25	1820-2691	0	1	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U26	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U27	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U28	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U29	1820-2690	9	1	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U30	1820-2763	7	2	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	MC74F258N
U31	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U32	1820-2075	4	3	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U33	1820-1453	0	1	IC CNTR TTL S BIN SYNCHRO POS-EDGE-TRIG	01295	SN74S163N
U34	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U35	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U36	1820-2096	9		IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U37	1820-1195	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U38	1820-2763	7		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	MC74F258N
U39	1820-1199	1		IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U40	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
U41	1820-1281	2	1	IC DCDR TTL LS 2-TO-4-LINE DUAL	01295	SN74LS139AN
U42	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U43	1820-0618	7	1	IC BFR TTL NON-INV HEX	01295	SN7417N
U44	1820-2699	8	1	IC DRVR TTL F LINE DRVR OCTL	07263	74F241PC
U45	1820-1419	8	2	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U46	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U47	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U48	1820-1199	1		IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U49	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U50	1820-2695	4		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	MC74F158N

54111-66506 Input/Output Assembly Replaceable Parts

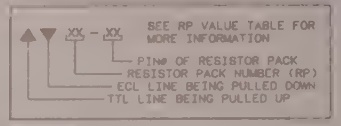
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U51	1820-1419	8		IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U52	1818-3538	1	16	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U53	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U54	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U55	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U56	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U57	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U58	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U59	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U60	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U61	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U62	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U63	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U64	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U65	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U66	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U67	1818-3538	1		DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
VR1	1826-0643	0	2	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
VR2	1826-0643	0		IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
XU1	1200-1310	4	2	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-1310
XU2-20				NOT ASSIGNED		
XU21	1200-1310	4		SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-1310
Y1	1813-0130	3	1	CLOCK-OSCILLATOR-XTAL 16-MHZ 0.05% TTL	04713	RASCO PLUS-16MHZ


P/O I/O ASSEMBLY (1 OF 5)
STROBE BUFFER
WATCHDOG TIMER
SYSTEM CLOCK GENERATOR
HP-IB INTERFACE
DATA
COMMANDS
U1 HP-IB CONTROLLER

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	U16,22,27,40,43
+5V DGND	16 8	U15,33
+5V DGND	20 10	U4,44,46
[illegible] DGND	[illegible]	[illegible]
[illegible] DGND	[illegible]	[illegible]

RESISTOR PACK DESCRIPTIONS:


XX – XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP2,7	1000	[illegible]	[illegible]

PARTS ON THIS SCHEMATIC

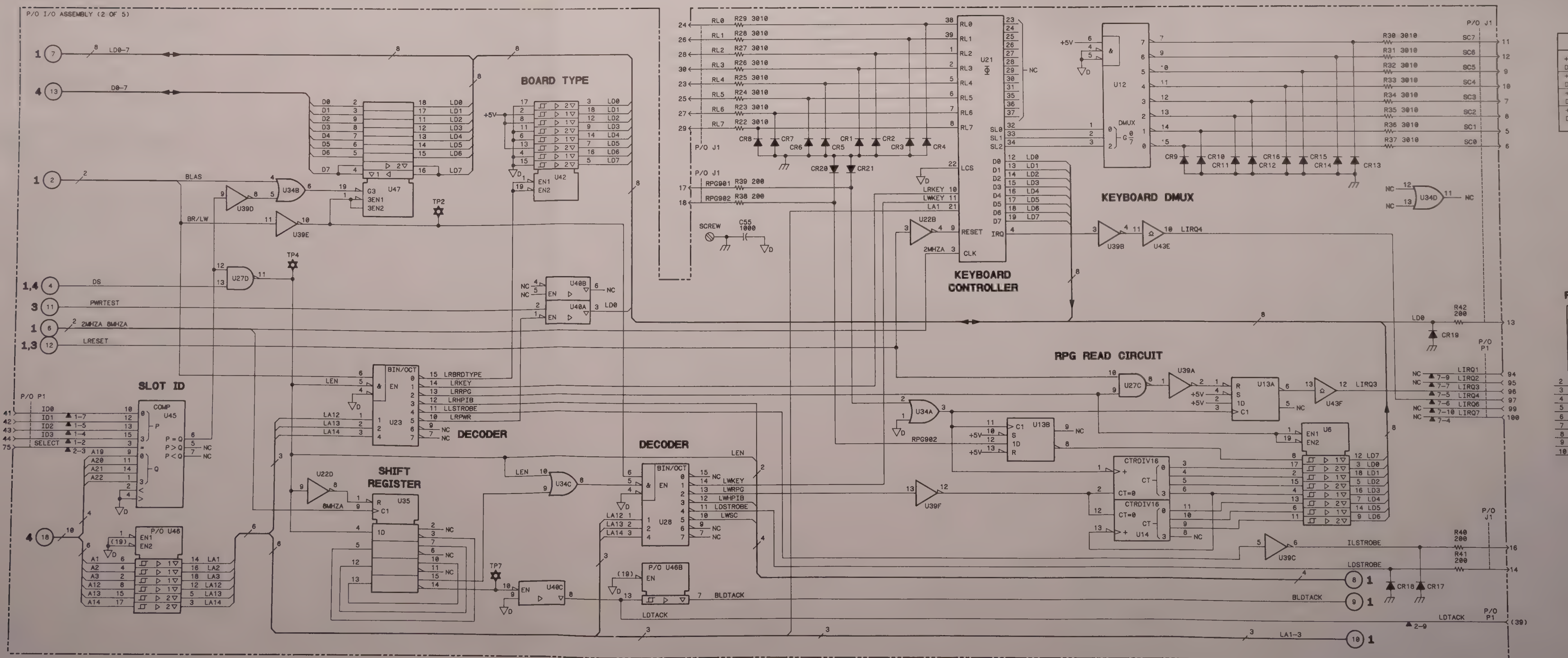
C40,57
J2
P/O P1
R19,60
P/O RP2,7
TP1,3,6
U1,4,5,15,16,33,44
P/O U22,27,40,43,46
Y1

54111/SC06_01/5/09-87

1

Watchdog Timer,System Clock Generator,HP-IB Interface

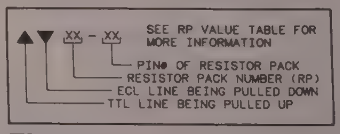
54111-66506


P/O I/O ASSEMBLY (2 OF 5)
BOARD TYPE
KEYBOARD CONTROLLER
KEYBOARD DMUX
SLOT ID
DECODER
SHIFT REGISTER
DECODER
RPG READ CIRCUIT

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	U13,14,22,27,34, 39,40,43
+5V DGND	16 8	U12,23,28,35,45
+5V DGND	20 10	U6,42,46,47
+5V DGND	40 20	U21

RESISTOR PACK DESCRIPTIONS:


XX – XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP1	2200	1	+5V
RP2,7	1000	1	+5V

PARTS ON THIS SCHEMATIC

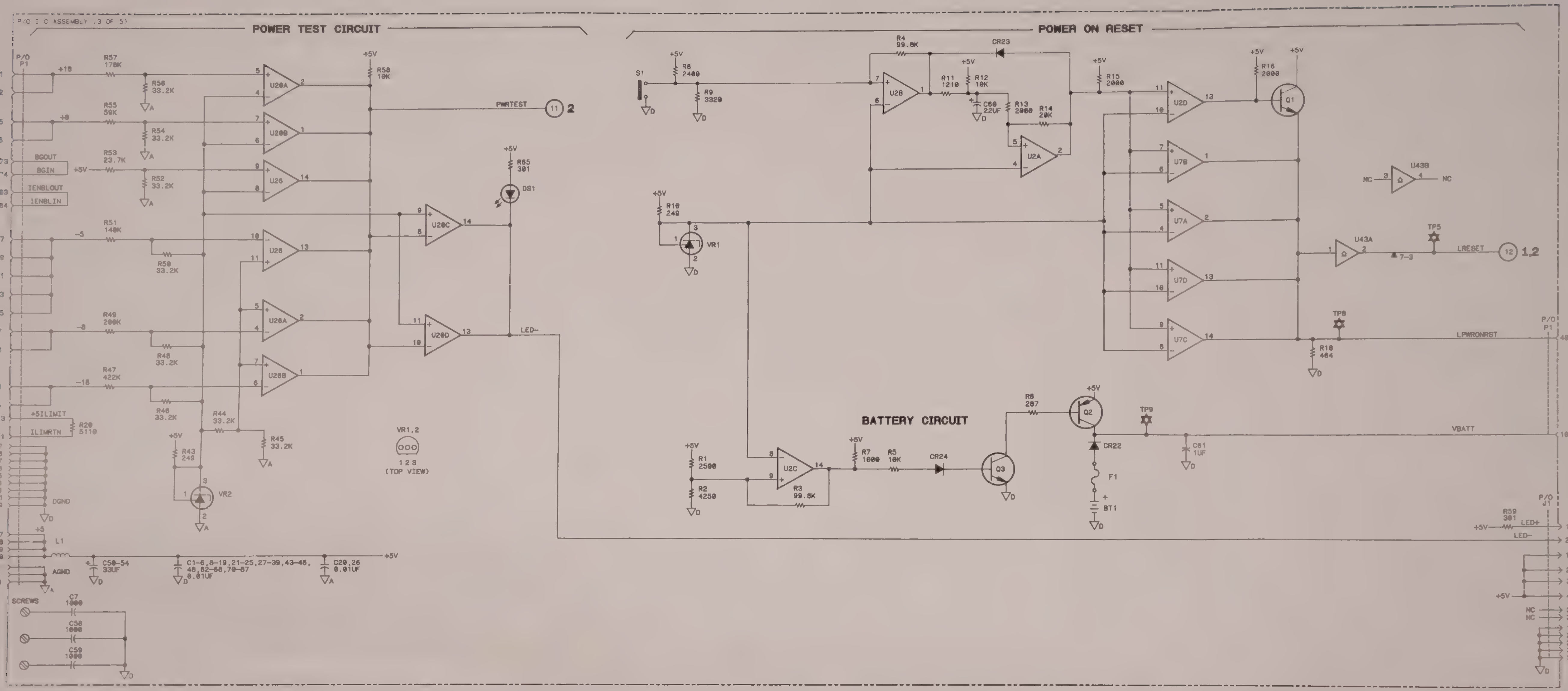
CR1-21
P/O J1
P/O P1
R22-42
P/O RP1,2,7
TP2,4,7
U6,12-14,21,23,28,34,35,39,42,45,47
P/O U22,27,40,43,46

54111/SC06_02/5/09-87

2

Bus Interface, Keyboard Control,RPG Read

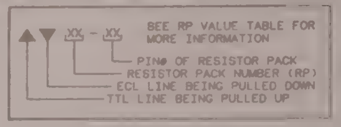
54111-66506

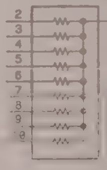

P/O I/O ASSEMBLY (3 OF 5)
POWER TEST CIRCUIT
POWER ON RESET
BATTERY CIRCUIT
PWRTEST
LRESET
LPWRONRST
VBATT
LED-
LED+
P/O P1
P/O J1

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
[illegible]	14	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP


1
2
3
4
5
6
7
8
9
10

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
7	1000	1	+5V

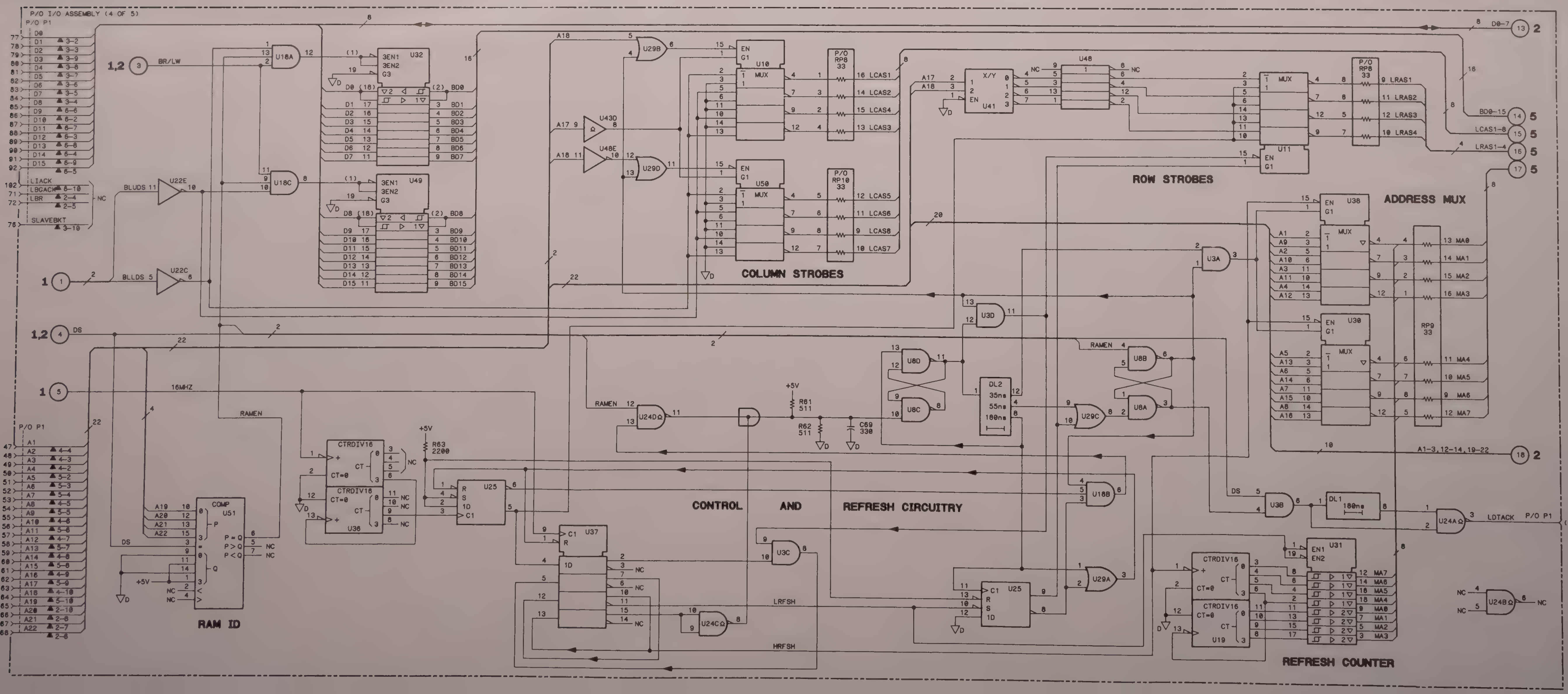
PARTS ON THIS SCHEMATIC

BT1	Q1-3
C1-39,43-46,49,	R1-16,18,20,43-59,65
50-54,58-68,70-87	P/O RP7
CR22-24	S1
DS1	TP5,8,9
F1	U2,7,20,26
L1	P/O U43
P/O J1	VR1,2
P/O P1	

54111/SC06_03/5/09-87

3

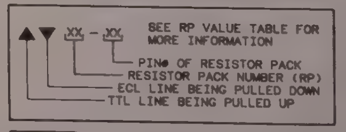
Battery Circuit, Power Test Circuit, Power On Reset

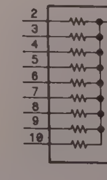

P/O I/O ASSEMBLY (4 OF 5)
COLUMN STROBES
ROW STROBES
ADDRESS MUX
CONTROL AND REFRESH CIRCUITRY
RAM ID
REFRESH COUNTER
BR/LW
BLUDS
BLLDS
DS
16MHZ
RAMEN
LRFSH
HRFSH
LDTACK
LCAS1-8
LRAS1-4
BD0-15
A1-3,12-14,19-22
D0-7
P/O P1

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	DL1,2 U3,8,18,19,22,24 25,29,36,43,48
+5V DGND	16 8	U10,11,30,37, 38,41,50,51
+5V DGND	20 10	U31,32,49

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP


1
2
3
4
5
6
7
8
9
10

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
2-6 8-10	1000 33	1	+5V

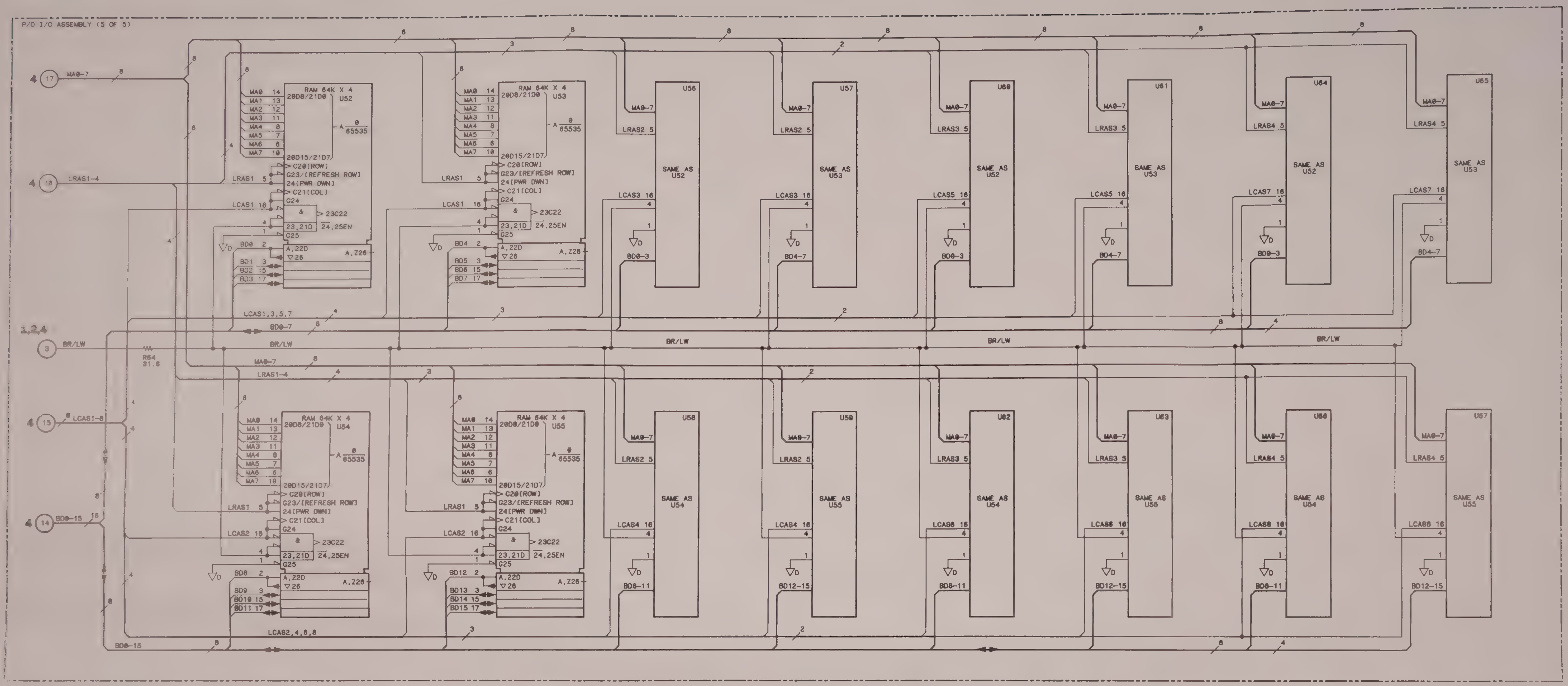
PARTS ON THIS SCHEMATIC

C69
DL1,2
P/O P1
R61-63
RP3-6,8,9
P/O RP2
U3,8,10,11,18,19,24,25,29-32,36-38,41,
48-51
P/O U22,43

54111/SC06_04/5/09-87

4

Input/Output Assembly


P/O I/O ASSEMBLY (5 OF 5)
MA0-7
LRAS1-4
LCAS1-8
BD0-15
BR/LW
1,2,4
R64 31.6
LCAS1,3,5,7
BD0-7
LCAS2,4,6,8
BD8-15
RAM 64K X 4 20D8/21D0 U52
RAM 64K X 4 20D8/21D0 U53
RAM 64K X 4 20D8/21D0 U54
RAM 64K X 4 20D8/21D0 U55
20D15/21D7
C20[ROW]
G23/[REFRESH ROW]
24[PWR DWN]
C21[COL]
G24
G25
23C22
23,21D
24,25EN
A,22D
A,Z26
0 65535
U56
U57
U58
U59
U60
U61
U62
U63
U64
U65
U66
U67
SAME AS U52
SAME AS U53
SAME AS U54
SAME AS U55
LRAS2
LRAS3
LRAS4
LCAS3
LCAS4
LCAS5
LCAS6
LCAS7
LCAS8
BD0-3
BD4-7
BD8-11
BD12-15

IC DEVICE
POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	9	U52-67
DGND	18	

RESISTOR PACK DESCRIPTIONS

▲ ▼ XX – XX SEE RP VALUE TABLE FOR MORE INFORMATION

RESISTOR PACK NUMBER (RP)

ECL LINE BEING PULLED DOWN

2
3
4
5
6
7
8
9
10
1

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE

PARTS ON THIS SCHEMATIC

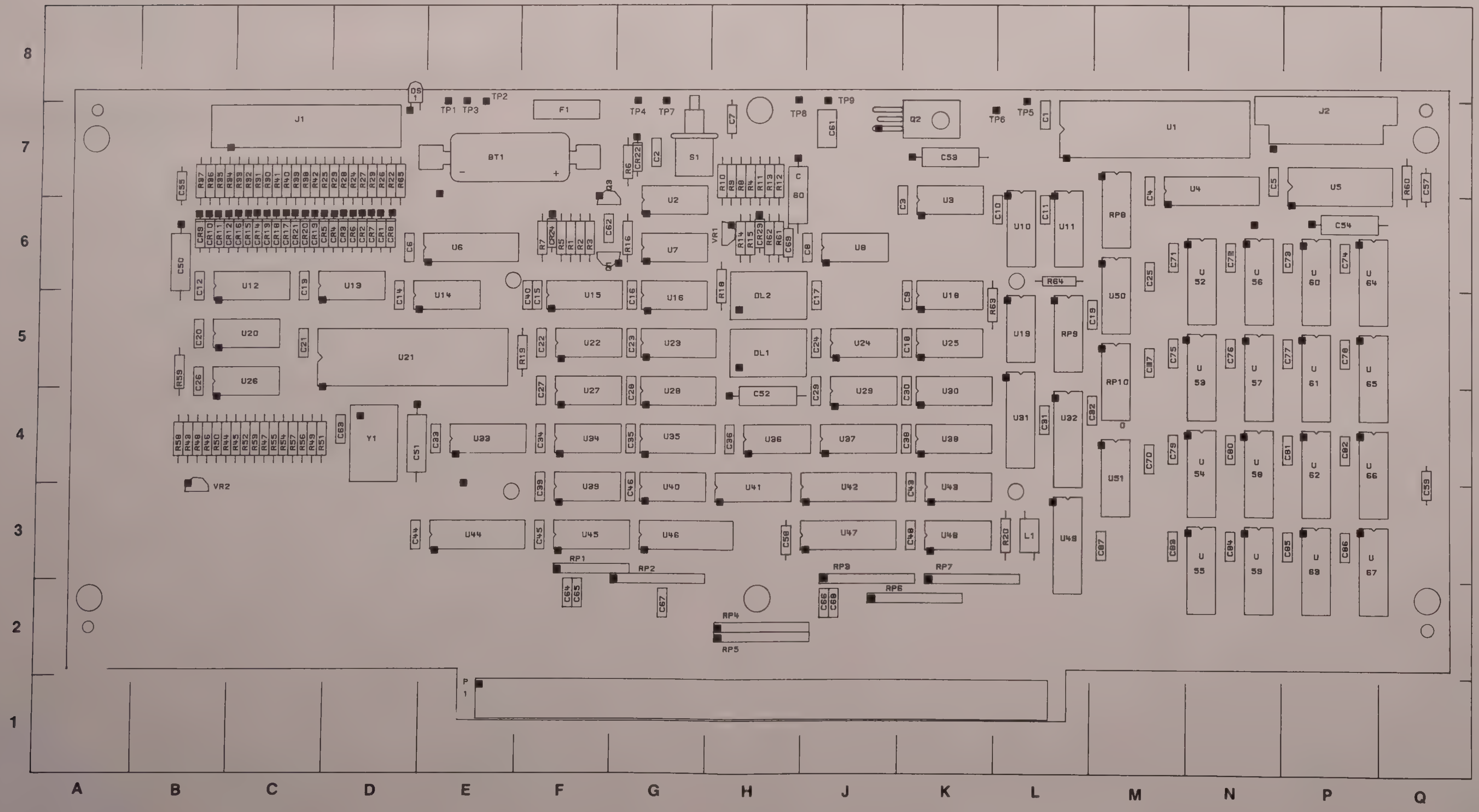
U52-67
R64

54111/SC06_05/5/09-87

5

Dynamic Ram

54111-66506


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
J
K
L
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N
P
Q
J1
J2
BT1
F1
S1
Q2
U1
U2
U3
U4
U5
U6
U7
U8
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
DL1
DL2
Y1
VR1
VR2
L1
RP1
RP2
RP4
RP5
RP6
RP7
RP8
RP9
RP10
P1

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
BT1	E-7	C51	D-4	CR12	B-6	R18	H-6	RP1	F-3	U28	G-4
		C52	H-4	CR13	C-6	R19	F-5	RP2	G-3	U29	J-4
C1	L-7	C53	K-7	CR14	C-6	R20	L-3	RP3	J-3	U30	K-4
C2	G-7	C54	P-6	CR15	C-6	R22	D-7	RP4	H-2	U31	L-4
C3	K-6	C55	B-7	CR16	C-6	R23	D-7	RP5	H-2	U32	L-4
C4	M-7	C57	Q-7	CR17	C-6	R24	D-7	RP6	J-2	U33	E-4
C5	N-7	C58	H-3	CR18	C-6	R25	C-7	RP7	K-3	U34	F-4
C6	D-6	C59	Q-4	CR19	C-6	R26	D-7	RP8	M-6	U35	G-4
C7	H-7	C60	H-6	CR20	C-6	R27	D-7	RP9	L-5	U36	H-4
C8	J-6	C61	J-7	CR21	C-6	R28	D-7	RP10	M-5	U37	J-4
C9	K-5	C62	F-6	CR22	G-7	R29	D-7			U38	K-4
C10	L-6	C63	D-4	CR23	H-6	R30	C-7	S1	G-7	U39	F-3
C11	L-6	C64	F-2	CR24	F-6	R31	C-7			U40	G-3
C12	B-6	C65	F-2			R32	C-7	TP1	E-7	U41	H-3
C13	C-6	C66	J-2	DL1	H-5	R33	C-7	TP2	E-7	U42	J-3
C14	D-5	C67	G-2	DL2	H-5	R34	B-7	TP3	E-7	U43	K-3
C15	F-5	C68	J-2			R35	B-7	TP4	G-7	U44	E-3
C16	G-5	C69	H-6	DS1	D-7	R36	B-7	TP5	L-6	U45	F-3
C17	J-5	C70	M-4			R37	B-7	TP6	L-6	U46	G-3
C18	K-5	C71	M-6	F1	F-7	R38	C-7	TP7	G-7	U47	J-3
C19	M-5	C72	N-6			R39	C-7	TP8	H-7	U48	K-3
C20	B-5	C73	P-6	J1	C-7	R40	C-7	TP9	J-7	U49	L-3
C21	C-5	C74	P-6	J2	P-7	R41	C-7			U50	M-5
C22	F-5	C75	M-5			R42	C-7	U1	M-7	U51	M-4
C23	G-5	C76	N-5	L1	L-3	R43	B-4	U2	G-6	U52	N-6
C24	J-5	C77	P-5			R44	B-4	U3	K-6	U53	N-5
C25	M-6	C78	P-5	P1	E-1	R45	C-4	U4	N-7	U54	N-4
C26	B-5	C79	M-4			R46	B-4	U5	P-7	U55	N-3
C27	F-4	C80	N-4	Q1	F-6	R47	C-4	U6	E-6	U56	N-6
C28	G-4	C81	P-4	Q2	K-7	R48	B-4	U7	G-6	U57	N-5
C29	J-4	C82	P-4	Q3	F-7	R49	C-4	U8	J-6	U58	N-4
C30	K-4	C83	M-3			R50	B-4	U10	L-6	U59	N-3
C31	L-4	C84	N-3	R1	F-6	R51	C-4	U11	L-6	U60	P-6
C32	M-4	C85	P-3	R2	F-6	R52	C-4	U12	C-6	U61	P-5
C33	E-4	C86	P-3	R3	F-6	R53	C-4	U13	D-6	U62	P-4
C34	F-4	C87	M-3	R4	H-7	R54	C-4	U14	E-5	U63	P-3
C35	G-4			R5	F-6	R55	C-4	U15	F-5	U64	P-6
C36	H-4	CR1	D-6	R6	G-7	R56	C-4	U16	G-5	U65	P-5
C37	M-5	CR2	D-6	R7	F-6	R57	C-4	U18	K-5	U66	P-4
C38	K-4	CR3	D-6	R8	H-7	R58	B-4	U19	L-5	U67	P-3
C39	F-3	CR4	D-6	R9	H-7	R59	B-5	U20	C-5		
C40	F-5	CR5	C-6	R10	H-7	R60	Q-7	U21	D-5	VR1	H-6
C43	K-3	CR6	D-6	R11	H-7	R61	H-6	U22	F-5	VR2	B-3
C44	D-3	CR7	D-6	R12	H-7	R62	H-6	U23	G-5		
C45	F-3	CR8	D-6	R13	H-7	R63	K-5	U24	J-5	Y1	D-4
C46	G-3	CR9	B-6	R14	H-6	R64	L-6	U25	K-5		
C48	K-3	CR10	B-6	R15	H-6	R65	D-7	U26	C-5		
C50	B-6	CR11	B-6	R16	G-6			U27	F-4		

54111-66507 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	51	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6041	1	2	CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6041
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574

54111-66507 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-4575	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C55	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C57	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0180-0309	4	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C60	0180-0309	4		CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C61	0180-0229	7	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C62				NOT ASSIGNED		
C63	0160-6041	1		CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6041
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
R1-32				NOT ASSIGNED		
R33	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R34	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R35	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R36	0757-0442	9		RESISTOR 10k +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R37	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8		NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	6	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP12	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	18	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP11	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP12	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP13	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

54111-66507 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
TP14	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP15	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
U1	1820-1730	6	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
U2	1820-3347	5	1	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	1	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U5	1820-2795	5	7	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U6	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U7	54111-80001	2	1	IC ROM	28480	54111-80001
U8	54111-80003	4	1	IC ROM	28480	54111-80003
U9	54111-80005	6	1	IC ROM	28480	54111-80005
U10	54111-80007	8	1	IC ROM	28480	54111-80007
U11	54111-80009	0	1	IC ROM	28480	54111-80009
U12	54111-80011	4	1	IC ROM	28480	54111-80011
U13	54111-80013	6	1	IC ROM	28480	54111-80013
U14	54111-80015	8	1	IC ROM	28480	54111-80015
U15	1818-3183	2	4	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U16	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U17	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U18	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U19	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U20	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
U21	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U22	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U23	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U24	54111-80002	3	1	IC ROM	28480	54111-80002
U25	54111-80004	5	1	IC ROM	28480	54111-80004
U26	54111-80006	7	1	IC ROM	28480	54111-80006
U27	54111-80008	9	1	IC ROM	28480	54111-80008
U28	54111-80010	3	1	IC ROM	28480	54111-80010
U29	54111-80012	5	1	IC ROM	28480	54111-80012
U30	54111-80014	7	1	IC ROM	28480	54111-80014
U31	54111-80016	9	1	IC ROM	28480	54111-80016
U32	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U33	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U34	1820-1851	2	1	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	2	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	1	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	2	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U41	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	1	IC DRVR TTL LS LINE OCTL	01295	SN74LS240N
U44	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U45	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U46	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U47	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N

54111-66507 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7		IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U51	1820-0629	0	1	IC FF TTL S J-K NEG-EDGE-TRIG	01295	SN74S112N
U52	1820-0684	7	1	IC INV TTL S HEX 1-INP	01295	SN74S05N
XU1-6				NOT ASSIGNED		
XU7	1200-0861	8	16	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU8	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU9	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU10	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU11	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU12	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU13	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU14	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU15-23				NOT ASSIGNED		
XU24	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU25	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU26	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU27	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU28	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU29	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU30	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU31	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861

CHANGE 1 for 54111-66510, Microprocessor

Schematic 2

ROM was changed to make a new assembly for use in the HP 54120A. Except for the different ROM the assembly is identical to the 54111-66507.

The 54111-66510 was superceded by the 54111-66522. To use later ROM in an HP 54120A that uses the 54111-66510, the Horizontal Control Board must be modified. refer to Service Note 54120A-02.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U7 to	54120-80001	3	IC ROM	28480	54120-80001
U8 to	54120-80003	5	IC ROM	28480	54120-80003
U9 to	54120-80005	7	IC ROM	28480	54120-80005
U10 to	54120-80007	9	IC ROM	28480	54120-80007
U11 to	54120-80009	1	IC ROM	28480	54120-80009
U12 to	54120-80011	5	IC ROM	28480	54120-80011
U24 to	54120-80002	4	IC ROM	28480	54120-80002
U25 to	54120-80004	6	IC ROM	28480	54120-80004
U26 to	54120-80006	8	IC ROM	28480	54120-80006
U27 to	54120-80008	0	IC ROM	28480	54120-80008
U28 to	54120-80010	4	IC ROM	28480	54120-80010
U29 to	54120-80012	6	IC ROM	28480	54120-80012

CHANGE 1 for 54111-66517, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54111D. The Microprocessor assembly part number was changed from 54111-66507 to 54111-66517.

The 54111-66517 was superceded by the 54111-66519 which is covered in a different information packet.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U7 to	54111-80017	0	IC ROM	28480	54111-80017
U8 to	54111-80019	2	IC ROM	28480	54111-80019
U9 to	54111-80021	6	IC ROM	28480	54111-80021
U10 to	54111-80023	8	IC ROM	28480	54111-80023
U11 to	54111-80025	0	IC ROM	28480	54111-80025
U12 to	54111-80027	2	IC ROM	28480	54111-80027
U13 to	54111-80029	4	IC ROM	28480	54111-80029
U14 to	54111-80031	8	IC ROM	28480	54111-80031
U24 to	54111-80018	1	IC ROM	28480	54111-80018
U25 to	54111-80020	5	IC ROM	28480	54111-80020
U26 to	54111-80022	7	IC ROM	28480	54111-80022
U27 to	54111-80024	9	IC ROM	28480	54111-80024
U28 to	54111-80026	1	IC ROM	28480	54111-80026
U29 to	54111-80028	3	IC ROM	28480	54111-80028
U30 to	54111-80030	7	IC ROM	28480	54111-80030
U31 to	54111-80032	9	IC ROM	28480	54111-80032

CHANGE 1 for 54111-66522, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54120B. The Microprocessor assembly part number was changed from 54111-66510 to 54111-66522. The 54111-66522 was superceded by the 54111-66525.

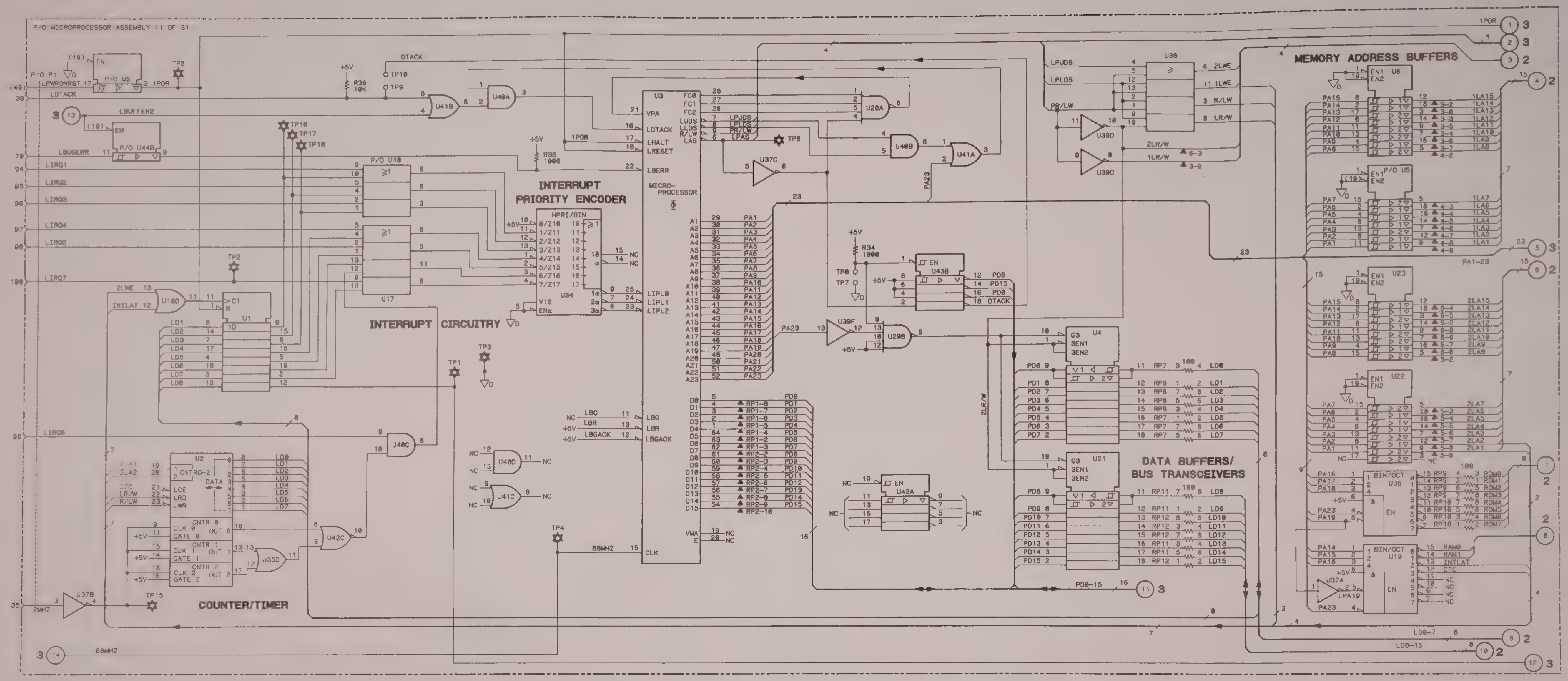
	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U7 to	54122-80001	5	IC ROM	28480	54122-80001
U8 to	54122-80003	7	IC ROM	28480	54122-80003
U9 to	54122-80005	9	IC ROM	28480	54122-80005
U10 to	54122-80007	1	IC ROM	28480	54122-80007
U11 to	54122-80009	3	IC ROM	28480	54122-80009
U12 to	54122-80011	7	IC ROM	28480	54122-80011
U13 to	54122-80013	9	IC ROM	28480	54122-80013
U24 to	54122-80002	6	IC ROM	28480	54122-80002
U25 to	54122-80004	8	IC ROM	28480	54122-80004
U26 to	54122-80006	0	IC ROM	28480	54122-80006
U27 to	54122-80008	2	IC ROM	28480	54122-80008
U28 to	54122-80010	6	IC ROM	28480	54122-80010
U29 to	54122-80012	8	IC ROM	28480	54122-80012
U30 to	54122-80014	0	IC ROM	28480	54122-80014

CHANGE 1 for 54111-66525, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54120B and updated HP 54120A. (See service note 54120A-02 to update an HP 54120A). The Microprocessor assembly part number was changed from 54111-66522 to 54111-66525.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U7 to	54123-80001	6	IC ROM	28480	54123-80001
U8 to	54123-80003	8	IC ROM	28480	54123-80003
U9 to	54123-80005	0	IC ROM	28480	54123-80005
U10 to	54123-80007	2	IC ROM	28480	54123-80007
U11 to	54123-80009	4	IC ROM	28480	54123-80009
U12 to	54123-80011	8	IC ROM	28480	54123-80011
U13 to	54123-80013	0	IC ROM	28480	54123-80013
U24 to	54123-80002	7	IC ROM	28480	54123-80002
U25 to	54123-80004	9	IC ROM	28480	54123-80004
U26 to	54123-80006	1	IC ROM	28480	54123-80006
U27 to	54123-80008	3	IC ROM	28480	54123-80008
U28 to	54123-80010	7	IC ROM	28480	54123-80010
U29 to	54123-80012	9	IC ROM	28480	54123-80012
U30 to	54123-80014	1	IC ROM	28480	54123-80014

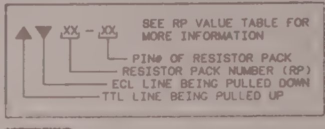

P/O MICROPROCESSOR ASSEMBLY (1 OF 3)
INTERRUPT PRIORITY ENCODER
INTERRUPT CIRCUITRY
COUNTER/TIMER
MEMORY ADDRESS BUFFERS
DATA BUFFERS/ BUS TRANSCEIVERS
U3 MICRO-PROCESSOR
LDTACK
LBUFFEN2
LBUSERR
LIRQ1
LIRQ2
LIRQ3
LIRQ4
LIRQ5
LIRQ7
LIRQ6
LPWRONRST
2WHZ
8WHZ
DTACK
1POR
LPUDS
LPLDS
PR/LW
2LWE
1LWE
R/LW
LR/W
PD0-15
LD0-7
LD8-15
PA1-23
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP15
TP16
TP17
TP18

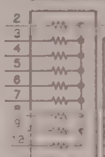
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	U17,18,20,35, 37–42
+5V DGND	16 8	19,34,36
+5V DGND	20 10	U1,4–6,21–23,43, 44
+5V DGND	24 12	U2
+5V DGND	14,49 16,53	U3

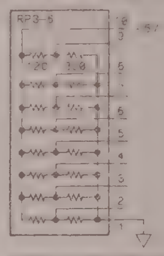
NOTES:

RESISTOR PACK DESCRIPTIONS:


XX – XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP


2
1
3
4
5
6
7
8
9
12

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1,2	10K	10	+5V

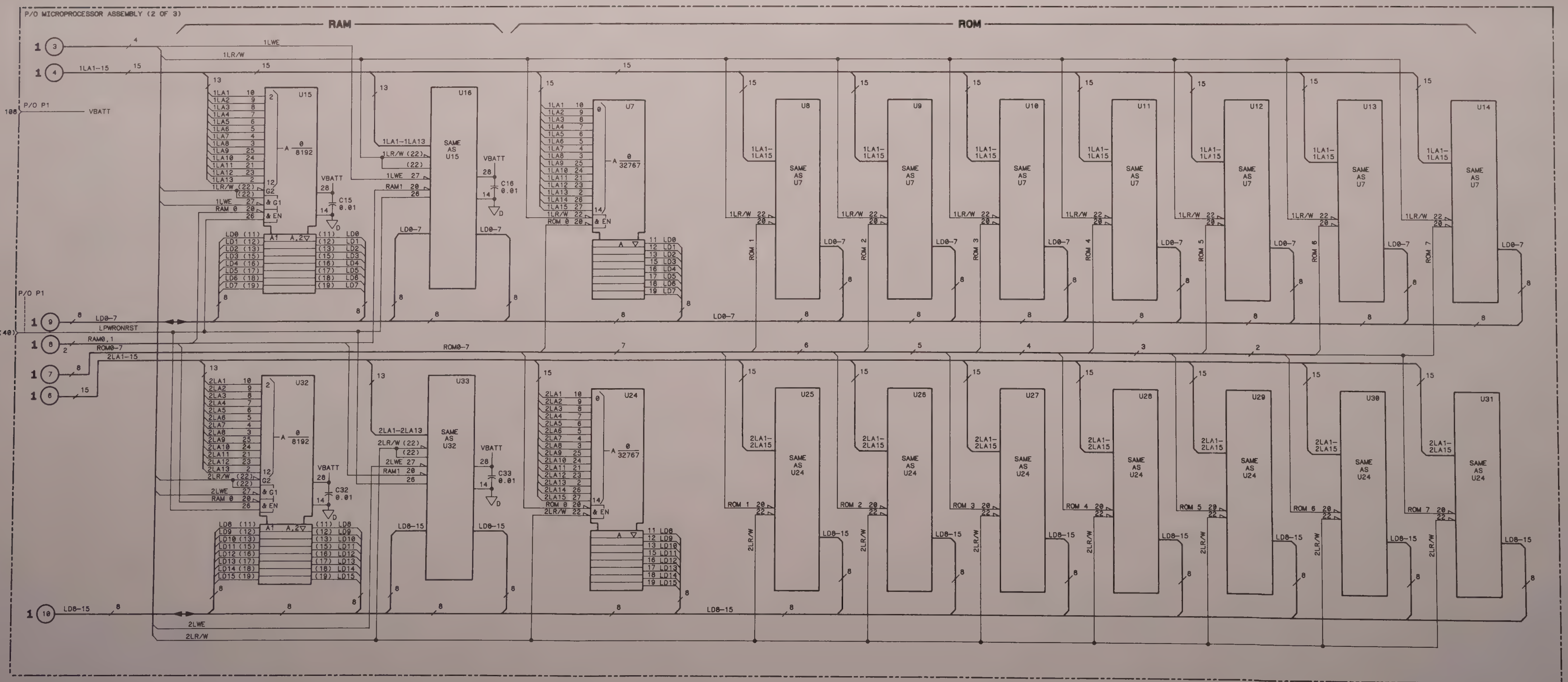


PARTS ON THIS SCHEMATIC
P/O P1 R34–36 RP1–12 U1–6,17–23,34,36,38,40,43 P/O U35,37,39,41,42,44 TP1–10,15–18

54111/SC07_01/3/04-87

1

Microprocessor, Interrupt Circuits
Memory Bus Drivers
54111-66507


P/O MICROPROCESSOR ASSEMBLY (2 OF 3)
RAM
ROM
VBATT
U15
U16
U7
U8
U9
U10
U11
U12
U13
U14
U32
U33
U24
U25
U26
U27
U28
U29
U30
U31
SAME AS U15
SAME AS U7
SAME AS U32
SAME AS U24
1LA1–15
2LA1–15
1LWE
1LR/W
2LWE
2LR/W
LPWRONRST
RAM0,1
ROM0–7
LD0–7
LD8–15
C15 0.01
C16 0.01
C32 0.01
C33 0.01
8192
32767

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	1,28 14	U7–14,24–31
VBATT DGND	28 14	U15,16,32,33

NOTES:

1. GATES ARE SYMBOLIZED ACCORDING TO CIRCUIT FUNCTION.

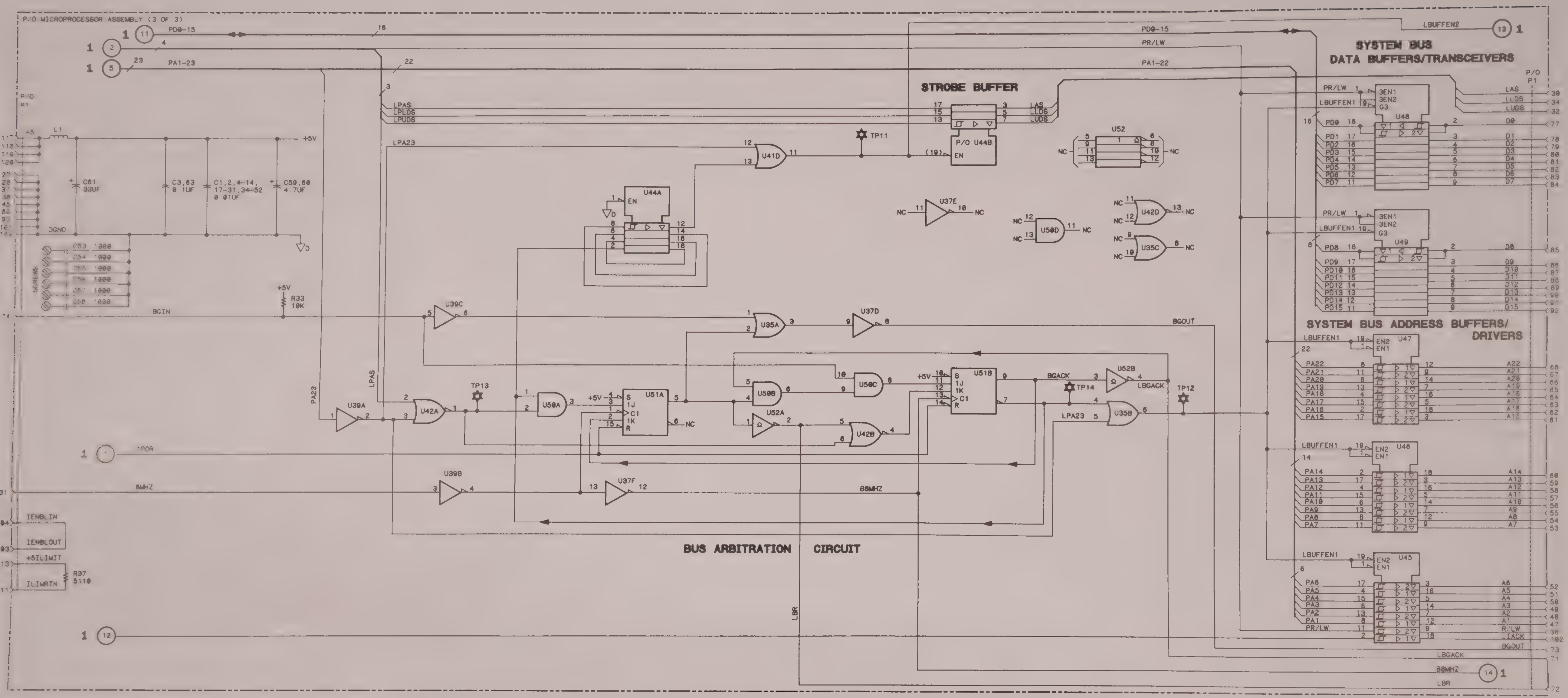
PARTS ON THIS SCHEMATIC
C15,16,32,33 P/O P1 U7–16,24–33

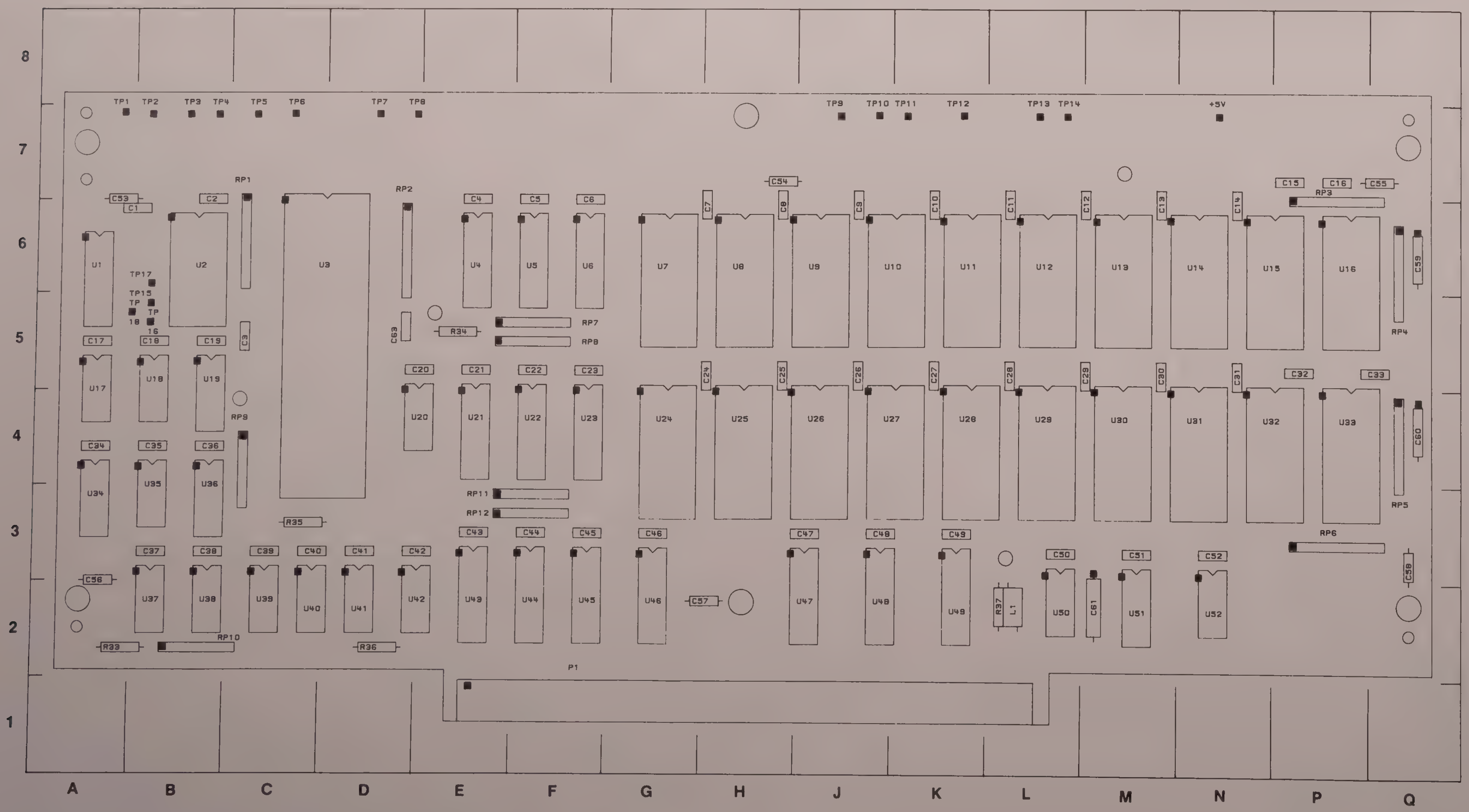
54111/SC07_02/3/04-87

2

CPU ROM,RAM

54111-66507


P/O MICROPROCESSOR ASSEMBLY (3 OF 3)
STROBE BUFFER
SYSTEM BUS DATA BUFFERS/TRANSCEIVERS
SYSTEM BUS ADDRESS BUFFERS/DRIVERS
BUS ARBITRATION CIRCUIT
PD0-15
PR/LW
PA1-23
PA1-22
LBUFFEN2
LBUFFEN1
LPAS
LPLDS
LPUDS
LPA23
LAS
LLDS
LUDS
BGIN
BGOUT
BGACK
LBGACK
LBR
8MHZ
B8MHZ
IENBLIN
IENBLOUT
+5ILIMIT
ILIMRTN
P/O U44B
U44A
U41D
U52
U37E
U50D
U42D
U35C
U39C
U35A
U37D
U39A
U42A
U50A
U51A
U50B
U52A
U50C
U42B
U51B
U52B
U35B
U39B
U37F
U45
U46
U47
U48
U49
TP11
TP12
TP13
TP14
L1
C61 33UF
C3,63 0.1UF
C1,2,4-14, 17-31,34-52 0.01UF
C59,60 4.7UF
C53-58 1000
R33 10K
R37 0.10
+5V
DGND
SCREWS
P/O P1


A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
1
2
3
4
5
6
7
8
P1
+5V

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5V DGND	14 7	U35,37,39,41, 42,50,52
+5V DGND	16 8	U51
+5V DGND	20 10	U44-49

NOTES:

PARTS ON THIS SCHEMATIC

C1-14,17-31,34-61,63
L1
P/O P1
R33,37
TP11-14
U45-52
P/O U35,37,39,41,42,44

54111/SC07_03/3/04-87

3

Data and Address Buffers
Bus Arbitration
54111-66507

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	A-6	C41	D-3	RP8	F-5	U16	P-6
C2	B-6	C42	E-3	RP9	C-4	U17	A-5
C3	C-5	C43	E-3	RP10	C-2	U18	B-5
C4	E-6	C44	F-3	RP11	E-3	U19	B-5
C5	F-6	C45	F-3	RP12	E-3	U20	E-4
C6	F-6	C46	G-3			U21	E-4
C7	H-6	C47	J-3	TP1	A-8	U22	F-4
C8	H-6	C48	J-3	TP2	B-8	U23	F-4
C9	J-6	C49	K-3	TP3	B-8	U24	G-4
C10	K-6	C50	L-3	TP4	B-8	U25	H-4
C11	L-6	C51	M-3	TP5	C-8	U26	J-4
C12	M-6	C52	N-3	TP6	C-8	U27	K-4
C13	M-6	C53	A-7	TP7	D-8	U28	K-4
C14	N-6	C54	H-7	TP8	D-8	U29	L-4
C15	P-7	C55	Q-7	TP9	J-8	U30	M-4
C16	P-7	C56	A-2	TP10	J-8	U31	N-4
C17	A-5	C57	H-2	TP11	K-8	U32	P-4
C18	B-5	C58	Q-3	TP12	K-8	U33	P-4
C19	B-5	C59	Q-6	TP13	L-8	U34	A-3
C20	E-5	C60	Q-4	TP14	L-8	U35	B-3
C21	E-5	C61	M-2	TP15	B-5	U36	B-3
C22	F-5	C63	D-5	TP16	B-5	U37	B-2
C23	F-5			TP17	B-6	U38	B-2
C24	H-5	L1	L-2	TP18	A-5	U39	C-2
C25	H-5					U40	C-2
C26	J-5	P1	F-2	U1	A-6	U41	D-2
C27	K-5			U2	B-6	U42	E-2
C28	L-5	R33	A-2	U3	C-6	U43	E-2
C29	M-5	R34	E-5	U4	E-6	U44	F-2
C30	M-5	R35	C-3	U5	F-6	U45	F-2
C31	N-5	R36	D-2	U6	F-6	U46	G-2
C32	P-5	R37	L-2	U7	G-6	U47	J-2
C33	Q-5			U8	H-6	U48	J-2
C34	A-4	RP1	C-7	U9	J-6	U49	K-2
C35	B-4	RP2	D-7	U10	K-6	U50	L-2
C36	B-4	RP3	P-7	U11	K-6	U51	M-2
C37	B-3	RP4	Q-5	U12	L-6	U52	N-2
C38	B-3	RP5	Q-3	U13	M-6		
C39	C-3	RP6	P-3	U14	N-6		
C40	C-3	RP7	F-5	U15	P-6		

Component-Level Information Packet

for HP 54112D

ADC Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Contents

This packet consists of the following information:

- Parts list
- Changes
- Component locator
- Schematics – four schematics on two large sheets

54112-66503 ADC Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	64	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C4				NOT ASSIGNED		
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0180-3831	3	12	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C7	0160-6623	5	12	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C8	0160-4801	7	5	CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-4786	7	1	CAPACITOR-FXD 27PF +-5% 100VDC CER 0+-30	28480	0160-4786
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-5469	5	1	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-4574	1	2	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0180-3848	2	2	CAPACITOR-FXD 33UF+-10% 16VDC TA	28480	0180-3848
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C28	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C29	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C30	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C31	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C32	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C33	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C34	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C35	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C36	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C37	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C38	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C39	0160-4886	8	2	CAPACITOR-FXD 13PF +-2% 200VDC CER 0+-30	28480	0160-4886
C40	0160-3873	1	1	CAPACITOR-FXD 4.7PF +-.5PF 200VDC CER	28480	0160-3873
C41	0160-4886	8		CAPACITOR-FXD 13PF +-2% 200VDC CER 0+-30	28480	0160-4886
C42	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

54112-66503 ADC Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0180-3848	2		CAPACITOR-FXD 33UF+-10% 16VDC TA	28480	0180-3848
C55	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C57	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C58	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C59	0160-4801	7		CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C60	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C61	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C62	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64	0180-3784	5	4	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C65	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C70	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C73	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C75	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0180-3784	5		CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C78	0180-3784	5		CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C79	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C81	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C88	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C89	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C90	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C91	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C92	0180-3771	0	5	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C93	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C94	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C95	0180-3771	0		CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C96	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C97	0180-3771	0		CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C98	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C99	0180-3770	9	2	CAPACITOR-FXD 2.2UF+-10% 35VDC TA	28480	0180-3770
C100	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C101	0180-3770	9		CAPACITOR-FXD 2.2UF+-10% 35VDC TA	28480	0180-3770
C102	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C103	0180-3771	0		CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C104	0180-3831	3		CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C105	0180-3771	0		CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C106	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C107	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C108	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C109	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C110	0180-3784	5		CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C111	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C112	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C113	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C114	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C115	0160-4795	8	1	CAPACITOR-FXD 4.7PF +-.5PF 100VDC CER	28480	0160-4795
CR1	1901-0050	3	21	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR2	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR3	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR4	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR5	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR7	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1901-1081	2	2	DIODE-PWR RECT 100V 3A	04713	MR501
CR9	1901-1081	2		DIODE-PWR RECT 100V 3A	04713	MR501
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR19	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR22	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR23	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
J1				NOT ASSIGNED		
J2	1251-5971	8	1	CONN-POST TYPE 2.5-PIN-SPCG 3-CONT	28480	1251-5971
J3	1251-8347	8	1	CONN-POST TYPE 0.100-PIN-SPCG 26-CONT	28480	1251-8347
J4	1252-1707	2	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1707
J5	1252-1920	1	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1920
J6	1250-2201	9	1	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-2201
L1	9135-0071	1	1	INDUCTOR RF-CH-MLD 62NH +-5.806%	28480	9135-0071
L2				NOT ASSIGNED		
L3	9140-1227	2	1	INDUCTOR 1MH +-10%	28480	9140-1227
L4	5081-7682	5	9	CHOKE-RF	28480	5081-7682
L5	5081-7682	5		CHOKE-RF	28480	5081-7682
L6	5081-7682	5		CHOKE-RF	28480	5081-7682
L7	5081-7682	5		CHOKE-RF	28480	5081-7682
L8	5081-7682	5		CHOKE-RF	28480	5081-7682
L9	5081-7682	5		CHOKE-RF	28480	5081-7682
L10	5081-7682	5		CHOKE-RF	28480	5081-7682
L11	5081-7682	5		CHOKE-RF	28480	5081-7682
L12	5081-7682	5		CHOKE-RF	28480	5081-7682

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1-3				NOT ASSIGNED		
Q4	1854-0591	6	1	TRANSISTOR NPN SI PD=180MW FT=4GHZ	04713	BFR90
Q5	1854-0092	2	1	TRANSISTOR NPN SI PD=200MW FT=600MHZ	28480	1854-0092
R1	0757-0280	3	4	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R2	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R3	0757-0465	6	4	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R4	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R5	0757-0394	0	4	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R6	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R7	0698-7528	0	1	RESISTOR 375K 0.1% 0.125W TF TC=0+-50	19701	5033R-1/8-T2-3753-B
R8	0698-4511	5	1	RESISTOR 86.6K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-8662-F
R9	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R10	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R11	0698-3430	5	1	RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R12	0698-3438	3	3	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-147R-F
R13	0698-3438	3		RESISTOR 147 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-147R-F
R14	0757-0440	7	1	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R15	0698-3156	2	1	RESISTOR 14.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1472-F
R16				NOT ASSIGNED		
R17	0757-0276	7	2	RESISTOR 61.9 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6192-F
R18	0757-0276	7		RESISTOR 61.9 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6192-F
R19	0757-0401	0	4	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R20	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R21	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R22	0698-5437	6	1	RESISTOR 12K 0.1% 0.125W TF TC=0+-50	28480	0698-5437
R23	0698-3136	8	1	RESISTOR 17.8K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1782-F
R24	0698-3271	2	1	RESISTOR 115K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1153-F
R25	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R26	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R27	0698-4158	6	1	RESISTOR 100K 0.1% 0.125W TF TC=0+-50	28480	0698-4158
R28	0698-3158	4	1	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2372-F
R29	0757-0441	8	1	RESISTOR 8.25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-8251-F
R30	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R31	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R32	0698-4002	9	1	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R33	0698-7529	1	1	RESISTOR 150K 0.1% 0.125W TF TC=0+-50	19701	5033R-1/8-T2-1503-B
R34	0698-8958	2	1	RESISTOR 511K 1% 0.125W TF TC=0+-100	28480	0698-8958
R35				NOT ASSIGNED		
R36	0683-1025	9	1	RESISTOR 1K 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-1K
R37	0757-0407	6	8	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R38	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R39	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R40	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R41	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R42	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R43	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R44	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R45	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R46	0698-3155	1	2	RESISTOR 4.64K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4641-F
R47	0698-8961	7	1	RESISTOR 909K 1% 0.125W TF TC=0+-100	28480	0698-8961
R48	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R49	0698-3155	1		RESISTOR 4.64K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4641-F
R50	8159-0005	0	1	RESISTOR ZERO-OHMS	28480	8159-0005
R51	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R52	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R53	0757-0408	7	1	RESISTOR 243 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-243R-F
R54	0698-3438	3		RESISTOR 147 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-147R-F
R55	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R56	0757-0429	2	1	RESISTOR 1.82K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1821-F
R57	0811-1666	7	1	RESISTOR 1 5% 2W PW TC=0+-800	28480	0811-1666
R58	2100-3161	6	1	RESISTOR-TRMR 20K 10% TKF SIDE-ADJ	32997	3006P-1-203
R59				NOT ASSIGNED		
R60	0757-0407	6		RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R61	0698-4367	9	1	RESISTOR 20.5 1% 0.125W TF TC=0+-100	28480	0698-4367
RP1	1810-0411	7	3	NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP2	1810-0124	9	1	NETWORK-RES 16-DIP 200.0 OHM X 8	28480	1810-0124
RP3	1810-0411	7		NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP4	1810-0411	7		NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP5	1810-0275	1	2	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP6	1810-0275	1		NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
U1	1826-0635	0	4	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U2	1826-1379	1	1	D/A 8-DGT 20-PLASTIC CMOS	24355	AD7226KN
U3	1826-0635	0		IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U4	1826-1246	1	2	D/A 12-BIT 28-CERDIP BPLR	24355	AD667AD
U5	1820-4685	6	1	IC FF ECL D-M/S POS-EDGE-TRIG COM CLOCK	52648	SP9131DG
U6	1820-1298	1	6	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U7	1818-4016	2	24	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U8	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U9	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U10	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U11	1820-1298	1		IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U12	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U13	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U14	1826-1381	5	1	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-P PKG	00000	LT1012CN8
U15	1826-1246	1		D/A 12-BIT 28-CERDIP BPLR	24355	AD667AD
U16	1820-2715	9	3	IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U17	1820-2715	9		IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U18	1820-2715	9		IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U19	1826-0890	9	1	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U20	1NB7-8094	5	1	IC HYBRID ANALOG-TO-DIGITAL CONVERTER	28480	1NB7-8094
U21	1820-1199	1	2	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U22	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U23	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U24	1820-1941	1	1	ANALOG SWITCH 4 SPST 16 -DIP-P	27014	LF13201N
U25	1820-3124	6	1	IC XLTR ECL TTL-TO-ECL QUAD	04713	MC10124P
U26	1820-1298	1		IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U27	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U28	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U29	1826-0635	0		IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U30	1826-0635	0		IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U31	1820-4152	2	2	IC FF CMOS/74HC D-TYPE POS-EDGE-TRIG COM	01295	SN74HCT574N
U32	1820-3670	7	1	IC GATE CMOS/74HC NAND 13-INP	04713	MC74HC133N
U33	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U34	1820-4142	0	1	IC BFR TTL AS NAND QUAD 2-INP	01295	SN74AS1000AN
U35	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U36	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U37				NOT ASSIGNED		
U38	1820-4152	2		IC FF CMOS/74HC D-TYPE POS-EDGE-TRIG COM	01295	SN74HCT574N
U39	1820-3664	9	1	IC GATE CMOS/74HC NAND QUAD 2-INP	18324	74HCT00N
U40	1820-1298	1		IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U41	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U42	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U43	1826-0175	3	1	IC COMPARATOR GP DUAL 14-DIP-P PKG	27014	LM319N
U44	1820-2711	5	4	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U45	1820-4944	0	1	IC GATE-ARRAY ECL	34335	AMD3550GC
U46	1820-1211	8	2	IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86AN
U47	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U48	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U49	1820-0495	8	1	IC DCDR TTL 4-TO-16-LINE 4-INP	01295	SN74154N
U50	1820-1298	1		IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U51	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U52	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U53	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U54	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U55	1820-1211	8		IC GATE TTL LS EXCL-OR QUAD 2-INP	01295	SN74LS86AN
U56	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U57	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U58	1826-0635	0	1	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U59	1820-1246	9	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS09N
U60	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U61	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U62	1820-1199	1		IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U63	1820-1298	1		IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U64	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U65	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U66	1826-0393	7	1	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U67	1826-0147	9	1	IC V RGLTR-FXD-POS 11.5/12.5V TO-220 PKG	04713	UA7812UC
U68	1826-0106	0	1	IC V RGLTR-FXD-POS 14.4/15.6V TO-220 PKG	04713	MC7815CT
U69	1826-0214	1	1	IC V RGLTR-FXD-NEG 14.4/15.6V TO-220 PKG	S0545	UPC7915H
U70	1826-0294	7	1	IC V RGLTR-FXD-NEG 4.8/5.2V TO-220 PKG	04713	MC7905CT
U71	1826-0527	9	1	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U72	1826-0122	0	1	IC V RGLTR-FXD-POS 4.8/5.2V TO-220 PKG	04713	MC7805CT
U73	1820-1195	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U74	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U75	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U76	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U77	1820-1244	7	1	IC MUXR/DATA-SEL TTL LS 4-TO-1-LINE DUAL	01295	SN74LS153N
U78	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U79	1818-4016	2		IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U80	1826-1099	2	1	IC V RGLTR-ADJ-NEG TO-92 PKG	27014	LM337LZ

CHANGE 1, for 54112-66503

Schematic 1

A capacitor was changed to optimize performance. There was no change in the part number of the assembly.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
C93 to	0180-3770	9	CAPACITOR-FXD 2.2UF +-10%	28480	0180-3770

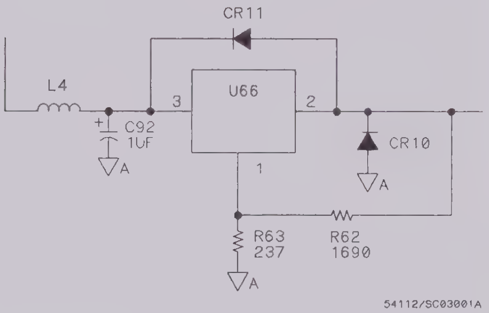
CHANGE 2, for 54112-66504

Schematics 1 and 4

The reference voltage of a voltage regulator was changed to correct an oscillation problem. The diagram shows the circuitry changed on schematic 1. In addition, on schematic 4, this change eliminates the +10VREF connection from U15 (lower left corner) to schematic 1.

DELETE: C91 and U58

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
ADD:					
R62	0698-4228	1	RESISTOR 1.69K 1% 0.125W	28480	0698-4228
R63	0698-3442	9	RESISTOR 237 1% 0.125W	24546	CT4-1/8-T0-237R-F



CHANGE 3, for 54112-66504

Schematic 4

To optimize the self-calibration routines, a resistor was changed in the offset circuitry. The new part is preferred, and should be used to replace the old part if there is a vertical calibration failure or if the attenuator is replaced.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
R24 to	0757-0466	7	RESISTOR 110K 1% 0.125W	28480	0757-0466

CHANGE 4, for 54112-66504

Schematic 1

The raw PC board was changed to solve minor manufacturing issues. The only significant change was the elimination of R50, a 0 Ω resistor.

CHANGE 5, for 54112-66504

Schematic 1

A change was made to optimize performance of the decelerator, U45. Two diodes, in a supply line, were replaced with 0 Ω resistors.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE CR8 and CR9 to:					
R64	8159-0005	0	RESISTOR ZERO-OHMS	28480	8159-0005
R65	8159-0005	0	RESISTOR ZERO-OHMS	28480	8159-0005

Schematic 4

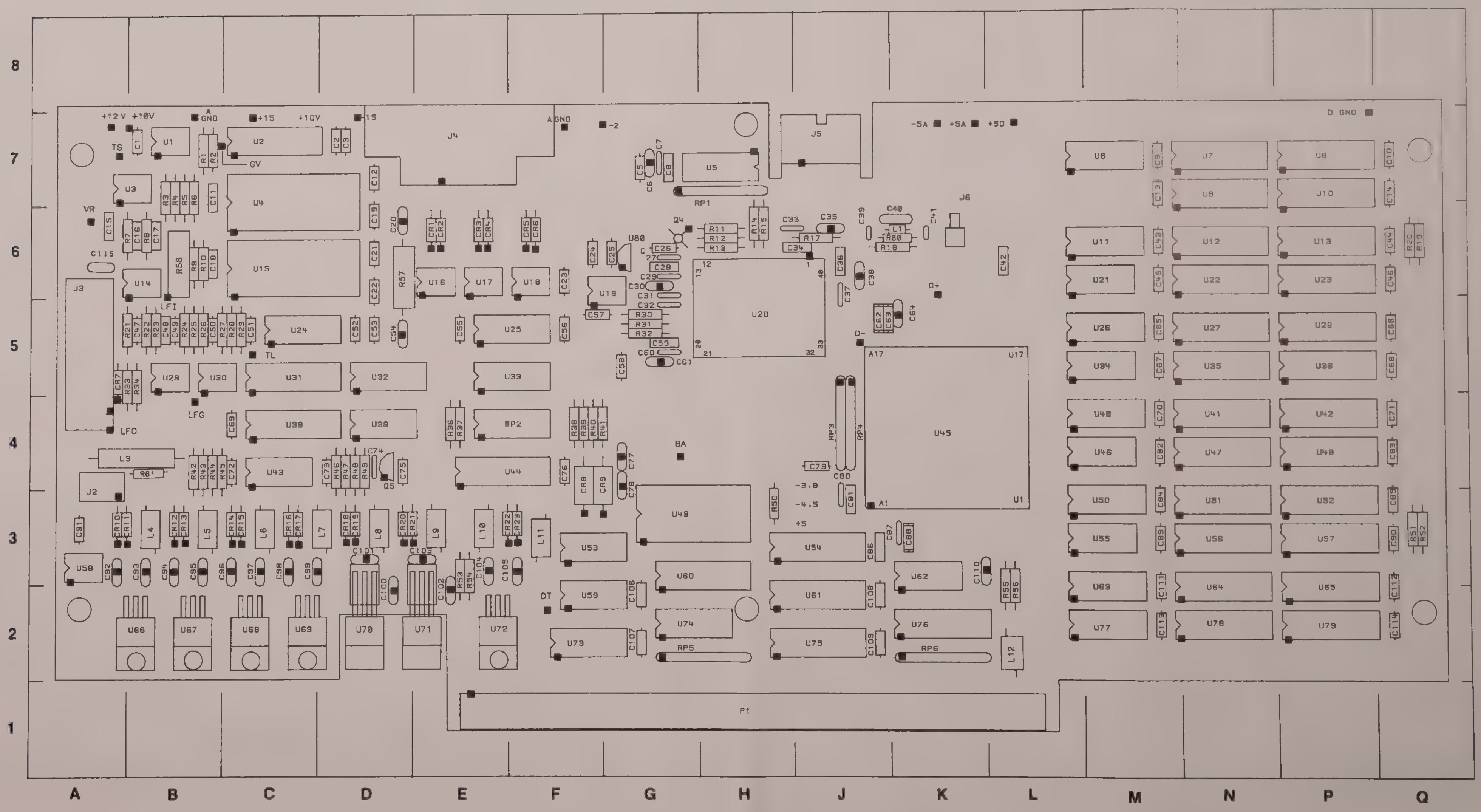
A part change was made to correct false indications of input overload.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE					
C74 to	0160-4802	8	CAPACITOR-FXD 82PF 100V	28480	0160-4802
R47 to	0757-0280	3	RESISTOR 1K 1% 0.125W	24546	CT4-1/8-T0-1001-F

NOTES:

54112-66503 ADC Assembly Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	B-7	C42	L-5	C82	M-4	CR6	F-6	Q5	D-4	R41	F-4	U3	B-7	U44	F-4
C2	D-7	C43	M-6	C83	Q-4	CR7	A-5			R42	B-4	U4	C-7	U45	K-4
C3	D-7	C44	Q-6	C84	M-3	CR8	F-4	R1	B-7	R43	B-4	U5	H-7	U46	M-4
C5	G-7	C45	M-6	C85	Q-3	CR9	F-4	R2	B-7	R44	B-4	U6	M-7	U47	N-4
C6	G-7	C46	Q-6	C86	J-3	CR10	A-3	R3	B-7	R45	B-4	U7	N-7	U48	P-4
C7	G-7	C47	B-5	C87	J-3	CR11	A-3	R4	B-7	R46	D-4	U8	P-7	U49	G-3
C8	G-7	C48	B-5	C88	K-3	CR12	B-3	R5	B-7	R47	D-4	U9	N-7	U50	M-3
C9	M-7	C49	B-5	C89	M-3	CR13	B-3	R6	B-7	R48	D-4	U10	P-7	U51	N-3
C10	Q-7	C50	B-5	C90	Q-3	CR14	C-3	R7	A-6	R49	D-4	U11	M-6	U52	P-3
C11	B-7	C51	C-5	C91	A-3	CR15	C-3	R8	B-6	R50	H-3	U12	N-6	U53	F-3
C12	D-7	C52	D-5	C92	A-3	CR16	C-3	R9	B-6	R51	Q-3	U13	P-6	U54	J-3
C13	M-7	C53	D-5	C93	B-3	CR17	C-3	R10	B-6	R52	Q-3	U14	B-6	U55	M-3
C14	Q-7	C54	D-5	C94	B-3	CR18	D-3	R11	H-6	R53	E-3	U15	C-6	U56	N-3
C15	A-6	C55	E-5	C95	B-3	CR19	D-3	R12	H-6	R54	E-3	U16	E-6	U57	P-3
C16	B-6	C56	F-5	C96	C-3	CR20	D-3	R13	H-6	R55	L-2	U17	E-6	U58	A-3
C17	B-6	C57	F-5	C97	C-3	CR21	D-3	R14	H-6	R56	L-2	U18	F-6	U59	F-2
C18	B-6	C58	G-5	C98	C-3	CR22	F-3	R15	H-6	R57	D-6	U19	G-6	U60	G-3
C19	D-6	C59	G-5	C99	C-3	CR23	F-3	R17	J-6	R58	B-6	U20	H-5	U61	J-2
C20	D-6	C60	G-5	C100	D-2			R18	J-6	R60	K-6	U21	M-6	U62	K-3
C21	D-6	C61	G-5	C101	D-3	J2	A-3	R19	Q-6	R61	B-4	U22	N-6	U63	M-2
C22	D-6	C62	J-5	C102	E-2	J3	A-6	R20	Q-6			U23	P-6	U64	N-2
C23	F-6	C63	J-5	C103	E-3	J4	E-7	R21	A-5	RP1	H-7	U24	C-5	U65	P-2
C24	F-6	C64	K-5	C104	E-3	J5	J-7	R22	B-5	RP2	F-4	U25	F-5	U66	B-2
C25	G-6	C65	M-5	C105	E-3	J6	K-7	R23	B-5	RP3	J-4	U26	M-5	U67	B-2
C26	G-6	C66	Q-5	C106	G-2			R24	B-5	RP4	J-4	U27	N-5	U68	C-2
C27	G-6	C67	M-5	C107	G-2	L1	K-6	R25	B-5	RP5	G-2	U28	P-5	U69	C-2
C28	G-6	C68	Q-5	C108	J-2	L3	A-4	R26	B-5	RP6	K-2	U29	B-5	U70	D-2
C29	G-6	C69	C-4	C109	J-2	L4	B-3	R27	B-5			U30	B-5	U71	E-2
C30	G-6	C70	M-4	C110	K-3	L5	B-3	R28	C-5	TPBA	G-4	U31	C-5	U72	E-2
C31	G-6	C71	Q-4	C111	M-2	L6	C-3	R29	C-5	TPDT	F-2	U32	D-5	U73	F-2
C32	G-5	C72	C-4	C112	Q-2	L7	D-3	R30	G-6	TPGV	C-7	U33	F-5	U74	G-2
C33	H-6	C73	D-4	C113	M-2	L8	D-3	R31	G-6	TPTS	A-7	U34	M-5	U75	J-2
C34	J-6	C74	D-4	C114	Q-2	L9	E-3	R32	G-6	TPLFI	B-5	U35	N-5	U76	K-2
C35	J-6	C75	D-4	C115	A-6	L10	E-3	R33	A-5	TPLFO	A-4	U36	P-5	U77	M-2
C36	J-6	C76	F-4			L11	F-3	R34	B-5	TPLFG	B-4	U38	C-4	U78	N-2
C37	J-6	C77	G-4	CR1	E-6	L12	L-2	R36	E-4	TPTL	C-5	U39	D-4	U79	P-2
C38	J-6	C78	G-3	CR2	E-6			R37	E-4	TPVR	A-6	U40	M-4	U80	G-6
C39	J-6	C79	J-4	CR3	E-6	P1	H-1	R38	F-4			U41	N-4		
C40	K-6	C80	J-4	CR4	E-6			R39	F-4	U1	B-7	U42	P-4		
C41	K-6	C81	J-3	CR5	F-6	Q4	G-6	R40	F-4	U2	C-7	U43	C-4		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+10V
A GND
+15
+10V
-15
A GND
-2
J4
J5
-5A
+5A
+5D
D GND
TS
U1
C1
R1
R2
U2
GV
C2
C3
U3
R3
R4
R5
R6
C11
U4
C12
C19
C20
CR1
CR2
CR3
CR4
CR5
CR6
VR
C15
R7
C16
R8
C17
C115
R58
R9
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R57
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C105
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U70
U71
U72
U53
U59
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C107
U49
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C8
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D+
D-
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C64
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U45
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RP3
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C109
U76
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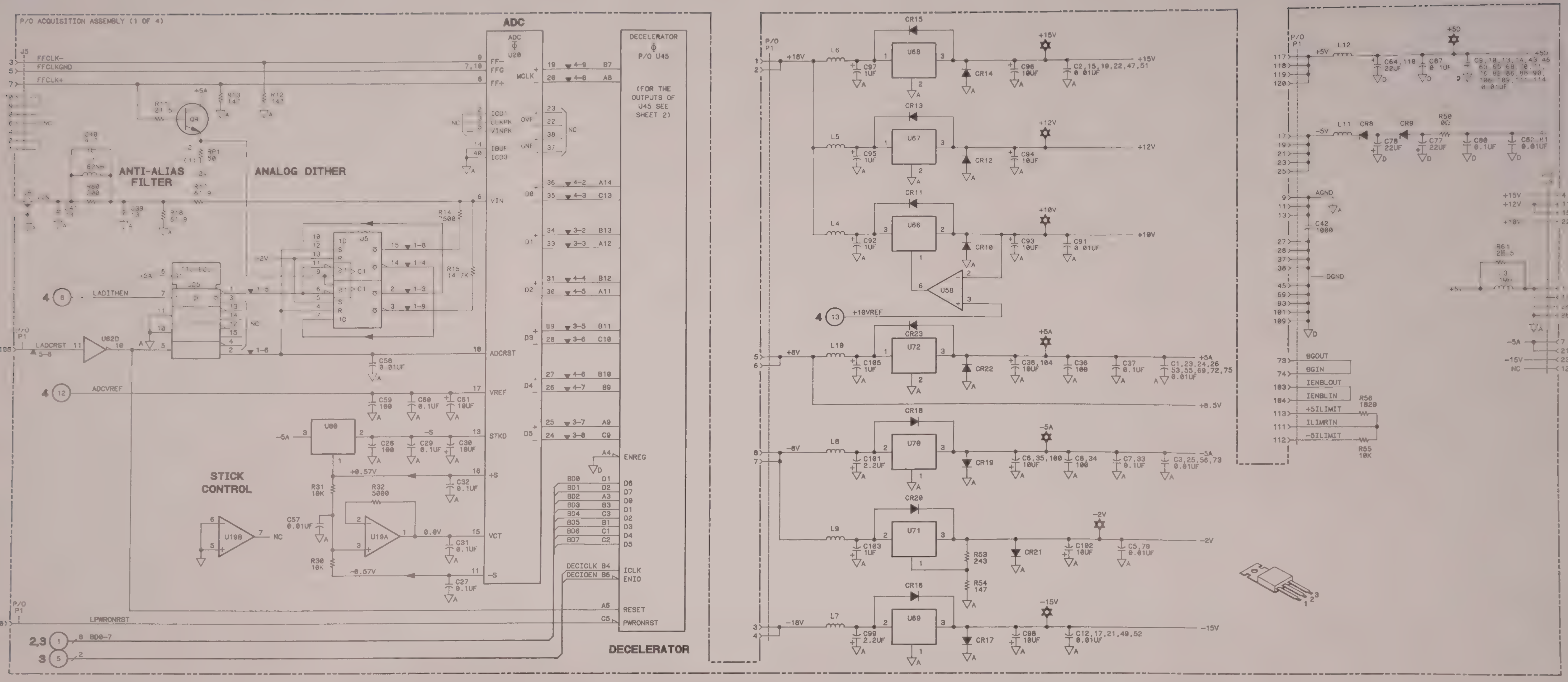
R51
R52
U55
C89
U56
U57
C90
U63
C111
U64
U65
C112
U77
C113
U78
U79
C114

Component Locator for ADC Assembly


P/O ACQUISITION ASSEMBLY (1 OF 4)
ADC
ANTI-ALIAS FILTER
ANALOG DITHER
STICK CONTROL
DECELERATOR
DECELERATOR P/O U45
(FOR THE OUTPUTS OF U45 SEE SHEET 2)
LADITHEN
LADCRST
ADCVREF
LPWRONRST
BD0-7
+10VREF
+15V
+12V
+10V
+5A
+8.5V
-5A
-2V
-15V
BGOUT
BGIN
IENBLOUT
IENBLIN
+SILIMIT
ILIMRTN
-SILIMIT
AGND
DGND

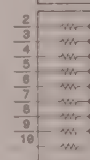
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
-5A AGND	8 [illegible],16	U5
+5A -5A	8 4	U19
+5A -5A AGND	39 4 [illegible],12,2[illegible],32	U20
+5A -5A AGND	9 8 16	U25
+5D -4V -2V DGND	C4,7;D16;E3, [illegible] A2;B2,[illegible];G3,[illegible], T12,17; U17 B8;C14 A1,5,7,10,13,15-17 B5,14,15; C6,8,11,12,16,17 D4;E2;G1; K17;L1,3,15,16,17 M2;P2,15; R6,7,9,15 T16;U1,2,4,12,16	U45
+15V AGND NC	[illegible] 4 [illegible] 5 8	U58
+5D DGND	[illegible] [illegible]	U62

RESISTOR PACK DESCRIPTIONS:

SEE RP VALUE TABLE FOR MORE INFORMATION

[illegible] RESISTOR PACK [illegible] BEING PULLED DOWN [illegible] BEING PULLED UP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RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1,3,4	[illegible]	[illegible]	-2V
5	[illegible]	[illegible]	+5D

PARTS ON THIS SCHEMATIC

[illegible],49,[illegible]-53,
[illegible]
CR8,23
[illegible]
P/O [illegible]3
L1 [illegible] 12
P/O [illegible]
Q4
R11-15,17,18,30-32,50,53-56,60,61
RP1,3,4
P/O RP5
U5,19,20,25,58,66-72,80
P/O U45,62

54112/SC03_1/4/9-87

1

Analog Input, ADC, Decelerator, Power Supplies and Decoupling
54112-66503

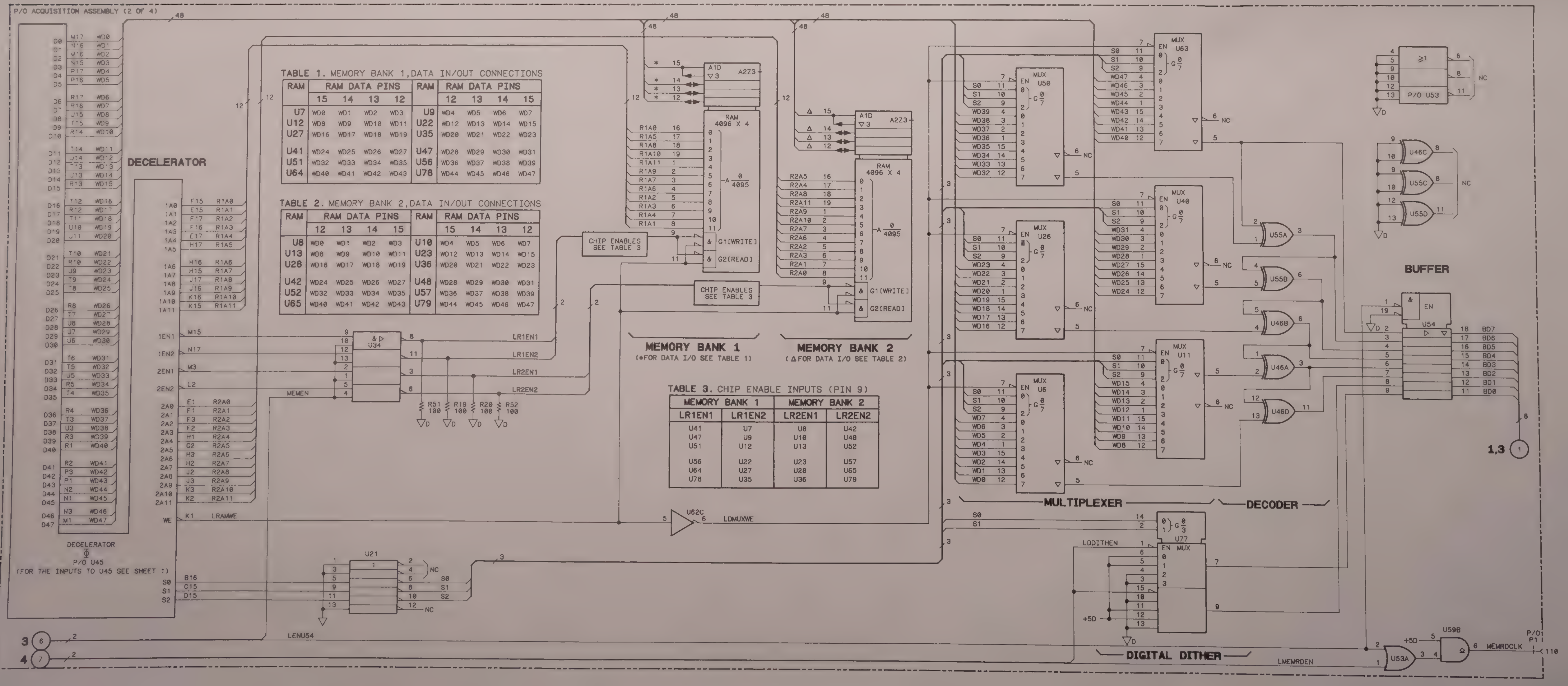

P/O ACQUISITION ASSEMBLY (2 OF 4)
DECELERATOR
DECELERATOR P/O U45
(FOR THE INPUTS TO U45 SEE SHEET 1)
A1D A2Z3
RAM 4096 X 4
G1[WRITE]
G2[READ]
CHIP ENABLES SEE TABLE 3
MEMORY BANK 1
(*FOR DATA I/O SEE TABLE 1)
MEMORY BANK 2
(ΔFOR DATA I/O SEE TABLE 2)
LR1EN1
LR1EN2
LR2EN1
LR2EN2
MEMEN
LRAMWE
LDMUXWE
LENU54
LDDITHEN
LMEMRDEN
MEMRDCLK
MUX
MULTIPLEXER
DECODER
BUFFER
DIGITAL DITHER
BD0-BD7

TABLE 1. MEMORY BANK 1,DATA IN/OUT CONNECTIONS

RAM	RAM DATA PINS				RAM	RAM DATA PINS			
	15	14	13	12		12	13	14	15
U7	WD0	WD1	WD2	WD3	U9	WD4	WD5	WD6	WD7
U12	WD8	WD9	WD10	WD11	U22	WD12	WD13	WD14	WD15
U27	WD16	WD17	WD18	WD19	U35	WD20	WD21	WD22	WD23
U41	WD24	WD25	WD26	WD27	U47	WD28	WD29	WD30	WD31
U51	WD32	WD33	WD34	WD35	U56	WD36	WD37	WD38	WD39
U64	WD40	WD41	WD42	WD43	U78	WD44	WD45	WD46	WD47

TABLE 2. MEMORY BANK 2,DATA IN/OUT CONNECTIONS

RAM	RAM DATA PINS				RAM	RAM DATA PINS			
	12	13	14	15		15	14	13	12
U8	WD0	WD1	WD2	WD3	U10	WD4	WD5	WD6	WD7
U13	WD8	WD9	WD10	WD11	U23	WD12	WD13	WD14	WD15
U28	WD16	WD17	WD18	WD19	U36	WD20	WD21	WD22	WD23
U42	WD24	WD25	WD26	WD27	U48	WD28	WD29	WD30	WD31
U52	WD32	WD33	WD34	WD35	U57	WD36	WD37	WD38	WD39
U65	WD40	WD41	WD42	WD43	U79	WD44	WD45	WD46	WD47

TABLE 3. CHIP ENABLE INPUTS (PIN 9)

MEMORY BANK 1		MEMORY BANK 2	
LR1EN1	LR1EN2	LR2EN1	LR2EN2
U41	U7	U8	U42
U47	U9	U10	U48
U51	U12	U13	U52
U56	U22	U23	U57
U64	U27	U28	U65
U78	U35	U36	U79

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5D DGND	16 8	U6,11,26,40, 50,63,77
+5D DGND	20 10	U7-10,12,13, 22,23,27,28, 35,36,41,42, 47,48,51,52, 54,56,57,64, 65,78,79
+5D DGND	14 7	U21,34,46,53, 55,59
+5D -4V -2V DGND	C4,7;D16;E3 J1,15;R11 A2;B2,17; G3,15-17; T12,17; U17 B8;C14 A1,5,7,10,13, 15-17; B5,14,15; C6,8,11,12, 16,17; D4;E2;G1; K17;L1,3,15, 16,17; M2;P2,15; R6,7,9,15 T16;U1,2,4, 12,16	U45

PARTS ON THIS SCHEMATIC

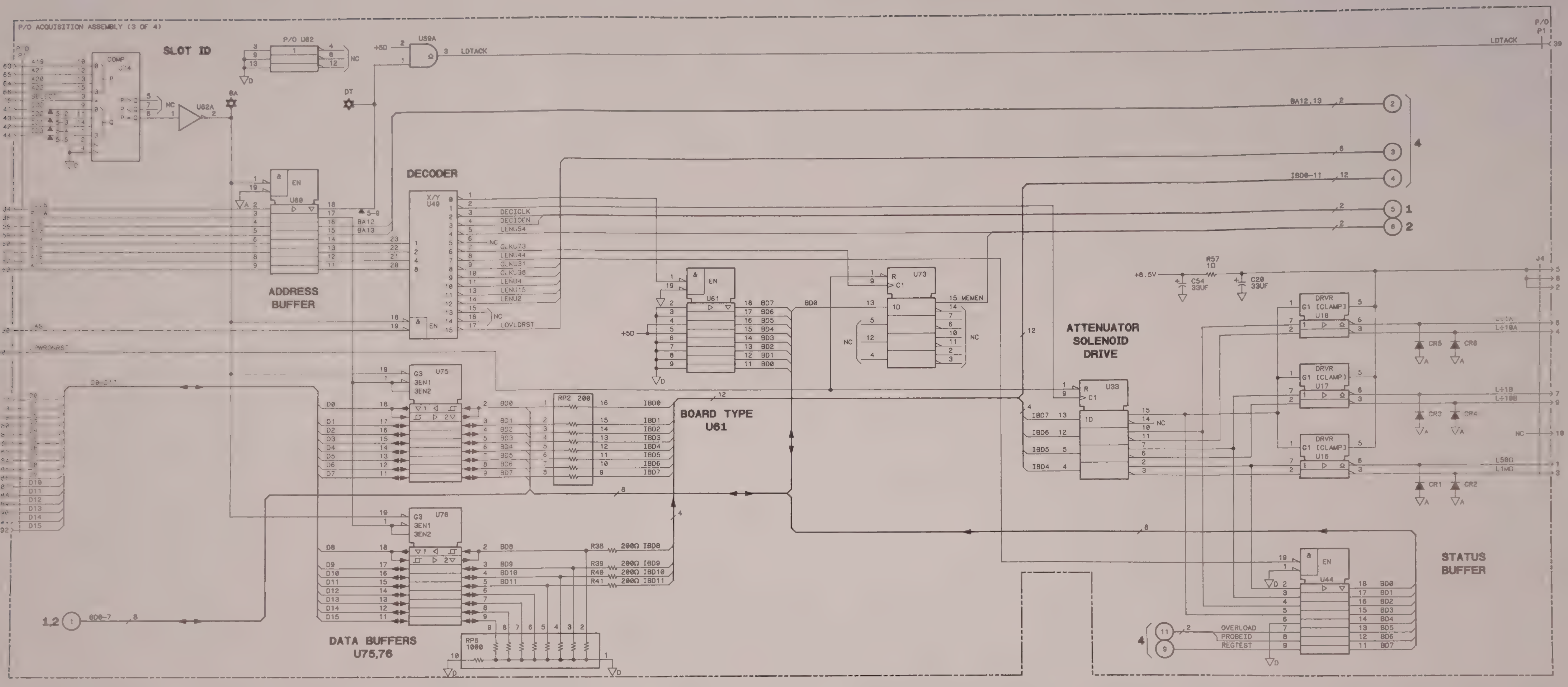
P/O P1
R19,20,51,52
U6-13,21-23,26-28,34-36,40-42,46-48,
50-57,63-65,77-79
P/O U45,59,62

54112/SC03_2/4/9-87

2

Acquisition Memory and Multiplexer

54112-66503


P/O ACQUISITION ASSEMBLY (3 OF 4)
SLOT ID
DECODER
ADDRESS BUFFER
BOARD TYPE U61
ATTENUATOR SOLENOID DRIVE
DATA BUFFERS U75,76
STATUS BUFFER
LDTACK
BA12,13
IBD0-11
DECICLK
DECIDEN
LENU54
LOVLDRST
MEMEN
OVERLOAD
PROBEID
REGTEST

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5D AGND	8 4	U16-18
[illegible]	16 8	U33,73,74
[illegible] DGND	20 10	U44,60,61,75,76
[illegible] DGND	14 [illegible]	U49
[illegible] DGND	14	U59,62

RESISTOR PACK DESCRIPTIONS:

▲▼ XX – XX SEE RP VALUE TABLE FOR MORE INFORMATION

RP#	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]

PARTS ON THIS SCHEMATIC

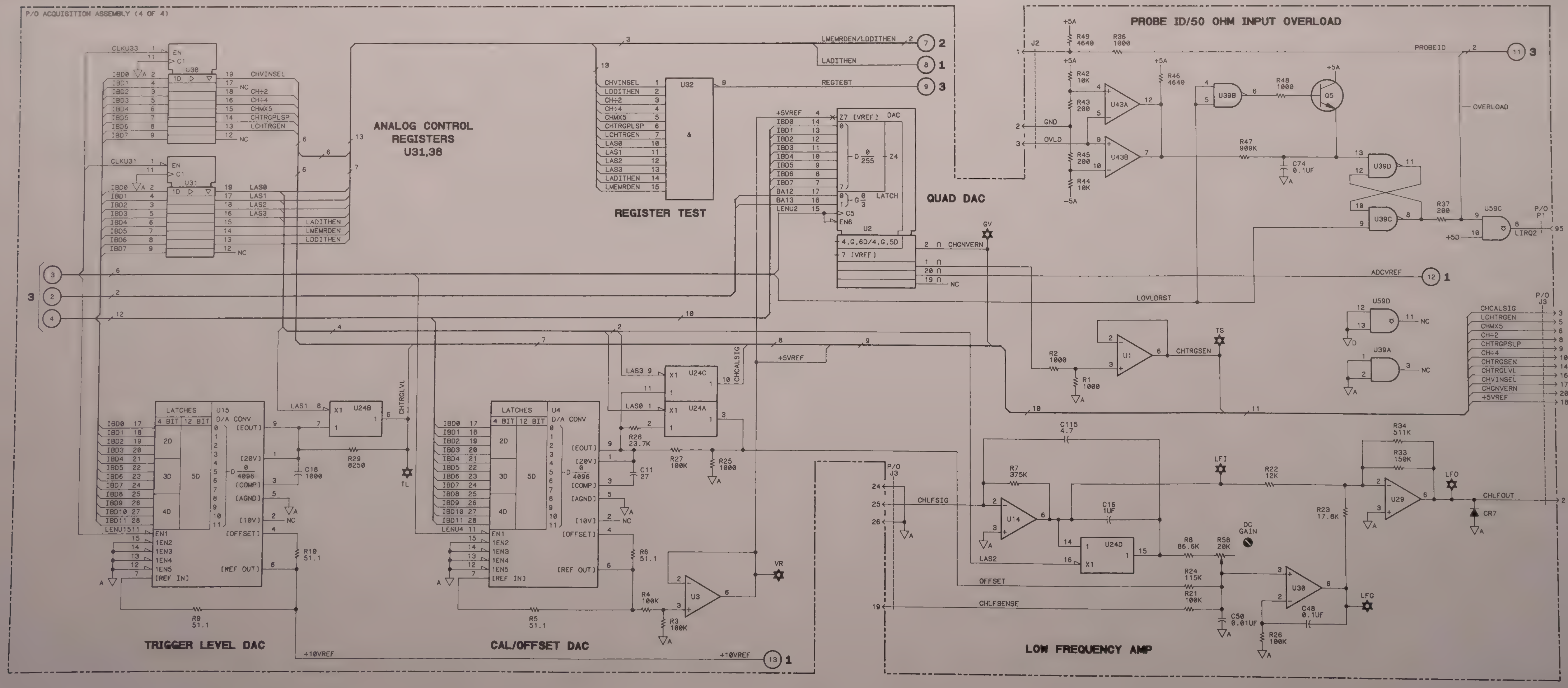
C20,54
CR1-6
J4
P/O P1
R38-41,57
RP2,5
P/O RP5
TP-BA,DT
U16-18,33,44,49,60,61,73-76
P/O U59,62

54112/SC03_3/4/9-87

3

System Bus Interface, Attenuator Solenoid Drive

54112-66503


P/O ACQUISITION ASSEMBLY (4 OF 4)
ANALOG CONTROL REGISTERS U31,38
REGISTER TEST
QUAD DAC
PROBE ID/50 OHM INPUT OVERLOAD
TRIGGER LEVEL DAC
CAL/OFFSET DAC
LOW FREQUENCY AMP
LMEMRDEN/LDDITHEN
LADITHEN
REGTEST
ADCVREF
LOVLDRST
PROBEID
OVERLOAD
CHTRGSEN
CHLFSIG
CHLFOUT
OFFSET
CHLFSENSE
+10VREF
DC GAIN

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5A −5A NC	7 4 1,5,8	U1
+15V −5A AGND	18 3 5,6	U2
+15V AGND NC	7 4 1,5,8	U3
+15V −15V AGND	8 10 5,16	J4,15
+15V −15V NC	7 4 1,5,8	U14,29,30
+15V −15V AGND NC	13 4 5 12	U24
+5A AGND	20 10	U31,38
+5A AGND	14 7	U39
+5A −5A AGND NC	11 6 3,8 1,2,13,14	U43
+5D DGND	14 7	U59

PARTS ON THIS SCHEMATIC

C11,16,18,48,50,74,115
CR7
J2
P/O J3
P/O P1
Q5
R1-10,21-29,33,34,36,37,42-49,58,
TP-GV,LFG,LFI,LFO,TL,TS,VR
U1-4,14,15,24,29-32,38,39,43
P/O U59

54112/SC03_4/4/9-87

4

D/A Converters, Probe ID/50 OHM Overload, Low Frequency Amplifier

54112-66503

Component-level Information Packet

for HP 54112D

Microprocessor

54111-66511
54111-66521
54111-66524

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	51	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6623	5	2	CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6623
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-4575	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C55	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C57	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0180-3845	9	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C60	0180-0309	4		CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C61	0180-3848	2	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C62				NOT ASSIGNED		
C63	0160-6623	5		CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6623
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	1	TRANSISTOR NPN SI TO-92 PD=350MW	04713	2N3904
R1-32				NOT ASSIGNED		
R33	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R34	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R35	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R36	0757-0442	9		RESISTOR 10k +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R37	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R38	0698-7212	9	2	RESISTOR 100 1% 0.05W TF TC=0+-100	28480	0698-7212
R39	0757-0419	0	2	RESISTOR 681 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-6810-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8		NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	6	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP12	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	18	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
TP11	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP12	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP13	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP14	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP15	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
U1	1820-1730	6	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
U2	1820-3347	5	1	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	1	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U5	1820-2795	5	7	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U6	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U7	54112-80001	3	1	IC ROM	28480	54112-80001
U8	54112-80003	5	1	IC ROM	28480	54112-80003
U9	54112-80005	7	1	IC ROM	28480	54112-80005
U10	54112-80007	9	1	IC ROM	28480	54112-80007
U11	54112-80009	1	1	IC ROM	28480	54112-80009
U12	54112-80011	5	1	IC ROM	28480	54112-80011
U13	54112-80013	7	1	IC ROM	28480	54112-80013
U15	1818-3183	2	4	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U16	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U17	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U18	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U19	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U20	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
U21	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U22	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U23	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U24	54112-80002	4	1	IC ROM	28480	54112-80002
U25	54112-80004	6	1	IC ROM	28480	54112-80004
U26	54112-80006	8	1	IC ROM	28480	54112-80006
U27	54112-80008	0	1	IC ROM	28480	54112-80008
U28	54112-80010	4	1	IC ROM	28480	54112-80010
U29	54112-80012	6	1	IC ROM	28480	54112-80012
U30	54112-80014	8	1	IC ROM	28480	54112-80014
U32	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U33	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U34	1820-1851	2	1	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	2	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	1	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	2	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U41	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	1	IC DRVR TTL LS LINE OCTL	01295	SN74LS240N
U44	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U45	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U46	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U47	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7		IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U51	1820-0629	0	1	IC FF TTL S J-K NEG-EDGE-TRIG	01295	SN74S112N
U52	1820-0684	7	1	IC INV TTL S HEX 1-INP	01295	SN74S05N
XU1-6				NOT ASSIGNED		
XU7	1200-0861	8	16	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU8	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU9	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU10	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU11	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU12	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU13	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU14	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU15-23				NOT ASSIGNED		
XU24	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU25	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU26	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU27	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU28	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU29	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU30	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU31	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861

CHANGE 1 for 54111-66521, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66511 to 54111-66521. The 54111-66521 was superceded by the 54111-66524.

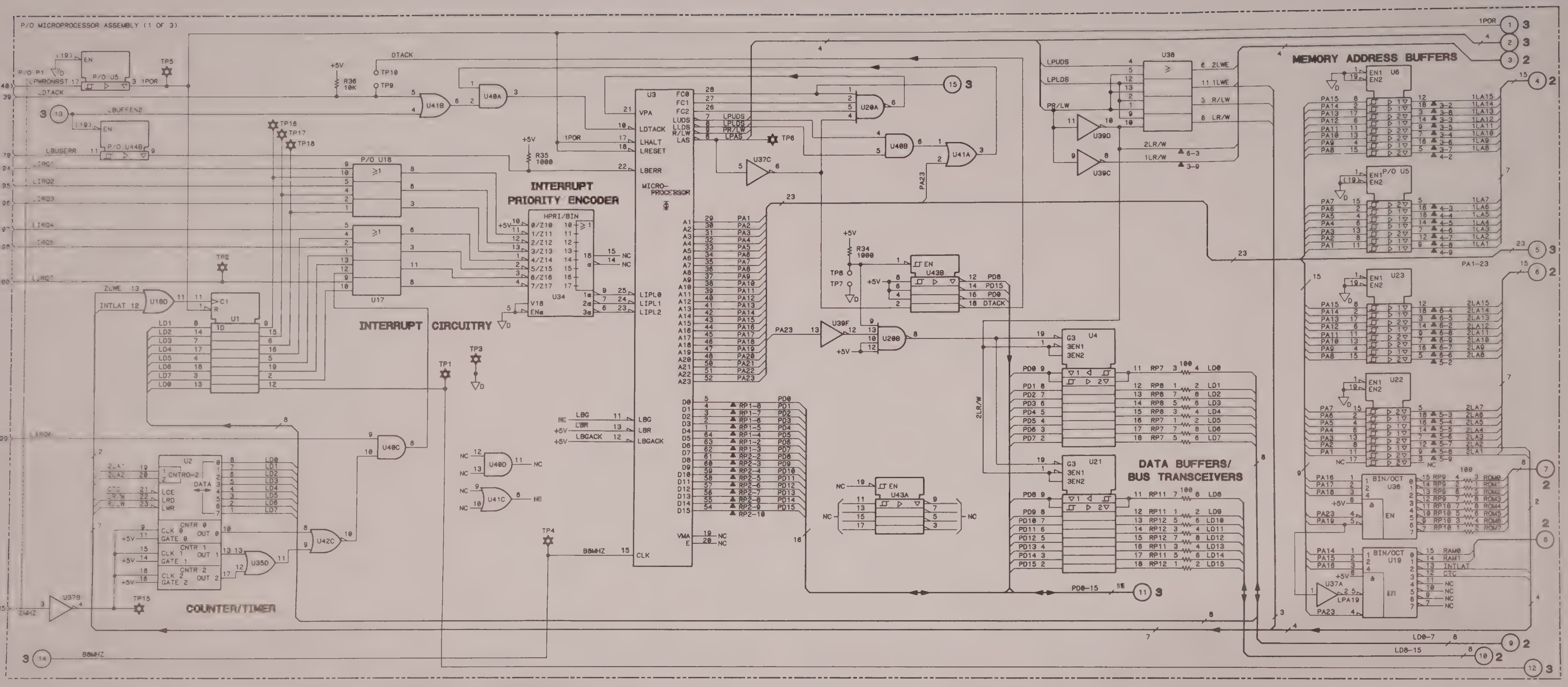
		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U7 to	54112-80015	9	IC ROM	28480	54112-80015
	U8 to	54112-80017	1	IC ROM	28480	54112-80017
	U9 to	54112-80019	3	IC ROM	28480	54112-80019
	U10 to	54112-80021	7	IC ROM	28480	54112-80021
	U11 to	54112-80023	9	IC ROM	28480	54112-80023
	U12 to	54112-80025	1	IC ROM	28480	54112-80025
	U13 to	54112-80027	3	IC ROM	28480	54112-80027
	U24 to	54112-80016	0	IC ROM	28480	54112-80016
	U25 to	54112-80018	2	IC ROM	28480	54112-80018
	U26 to	54112-80020	6	IC ROM	28480	54112-80020
	U27 to	54112-80022	8	IC ROM	28480	54112-80022
	U28 to	54112-80024	0	IC ROM	28480	54112-80024
	U29 to	54112-80026	2	IC ROM	28480	54112-80026
	U30 to	54112-80028	4	IC ROM	28480	54112-80028

CHANGE 1 for 54111-66524, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66521 to 54111-66524.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U7 to	54112-80043	3	IC ROM	28480	54112-80043
	U8 to	54112-80045	5	IC ROM	28480	54112-80045
	U9 to	54112-80047	7	IC ROM	28480	54112-80047
	U10 to	54112-80049	9	IC ROM	28480	54112-80049
	U11 to	54112-80051	3	IC ROM	28480	54112-80051
	U12 to	54112-80053	5	IC ROM	28480	54112-80053
	U13 to	54112-80055	7	IC ROM	28480	54112-80055
	U24 to	54112-80044	4	IC ROM	28480	54112-80044
	U25 to	54112-80046	6	IC ROM	28480	54112-80046
	U26 to	54112-80048	8	IC ROM	28480	54112-80048
	U27 to	54112-80050	2	IC ROM	28480	54112-80050
	U28 to	54112-80052	4	IC ROM	28480	54112-80052
	U29 to	54112-80054	6	IC ROM	28480	54112-80054
	U30 to	54112-80056	8	IC ROM	28480	54112-80056

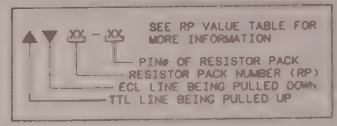

P/O MICROPROCESSOR ASSEMBLY (1 OF 3)
INTERRUPT PRIORITY ENCODER
INTERRUPT CIRCUITRY
COUNTER/TIMER
MEMORY ADDRESS BUFFERS
DATA BUFFERS/ BUS TRANSCEIVERS
MICRO- PROCESSOR
U3
U34
U17
U1
U2
U18
U36
U38
U4
U21
U6
U5
U23
U22
U19
U43A
U43B
1POR
DTACK
LPUDS
LPLDS
LBERR
8MHZ
PA1-23
LD0-7
LD8-15

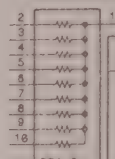
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	U17,18,20,35, 37-42
+5V DGND	16 8	U19,34,36
+5V DGND	20 10	U1,4-6,21-23,43, 44
+5V DGND	24 12	U2
+5V DGND	14,49 16,53	U3

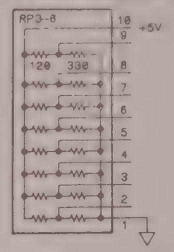
NOTES:

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP


1
2
3
4
5
6
7
8
9
10
RP1-2

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1,2	10K	10	+5V


RP3-8
10
+5V
9
120
330
8
7
6
5
4
3
2
1

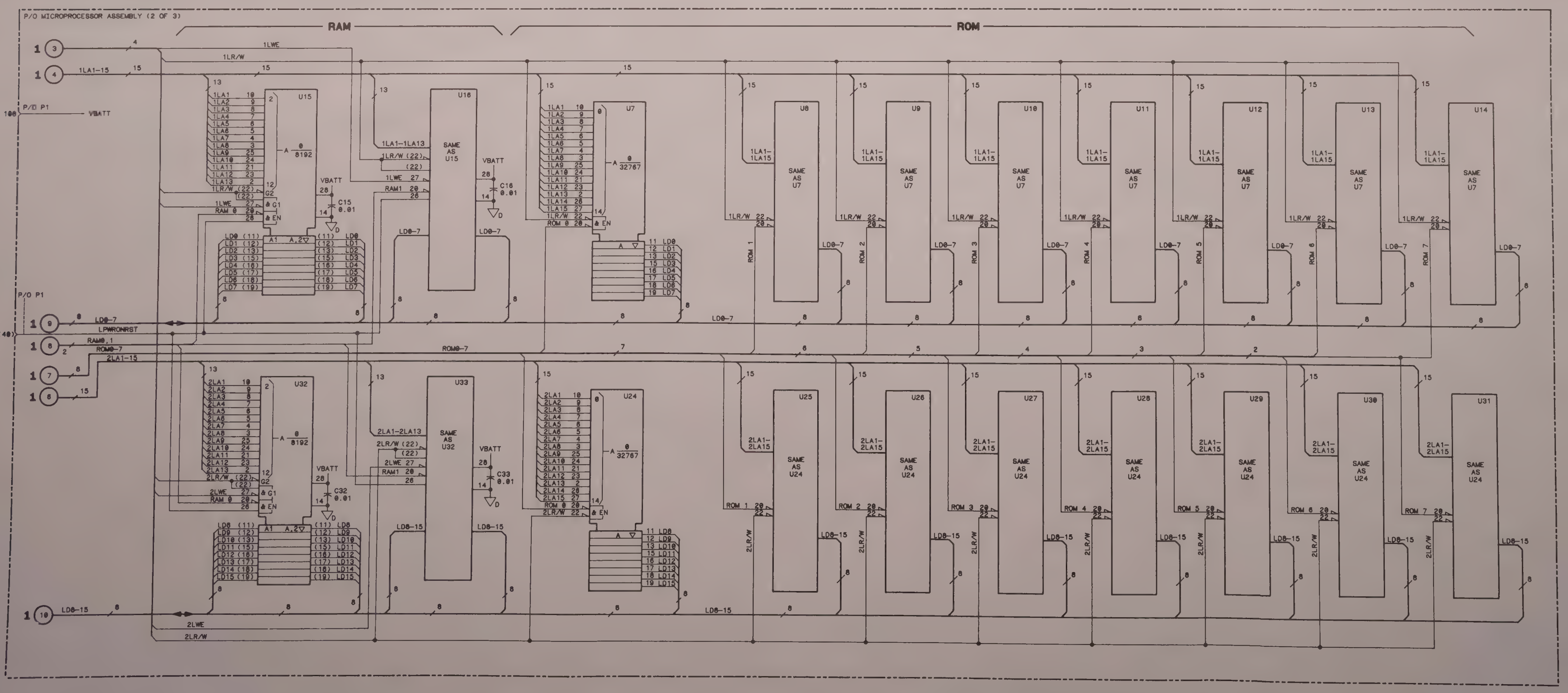
PARTS ON THIS SCHEMATIC

P/O P1
R34-36
RP1-12
U1-6,17-23,34,36,38,40,43
P/O U35,37,39,41,42,44
TP1-10,15-18

54111/SC11_01/3/9-87

1

Microprocessor, Interrupt Circuits
Memory Bus Drivers
54111-66511


P/O MICROPROCESSOR ASSEMBLY (2 OF 3)
RAM
ROM
U15
U16
U7
U8
U9
U10
U11
U12
U13
U14
U32
U33
U24
U25
U26
U27
U28
U29
U30
U31
SAME AS U15
SAME AS U7
SAME AS U32
SAME AS U24
VBATT
1LWE
1LR/W
1LA1-15
LD0-7
LD8-15
LPWRONRST
ROM0-7
2LA1-15
2LWE
2LR/W
8192
32767

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	1,28 14	U7-14,24-31
VBATT DGND	28 14	U15,16,32,33

NOTES:

1. GATES ARE SYMBOLIZED ACCORDING TO CIRCUIT FUNCTION.

PARTS ON THIS SCHEMATIC

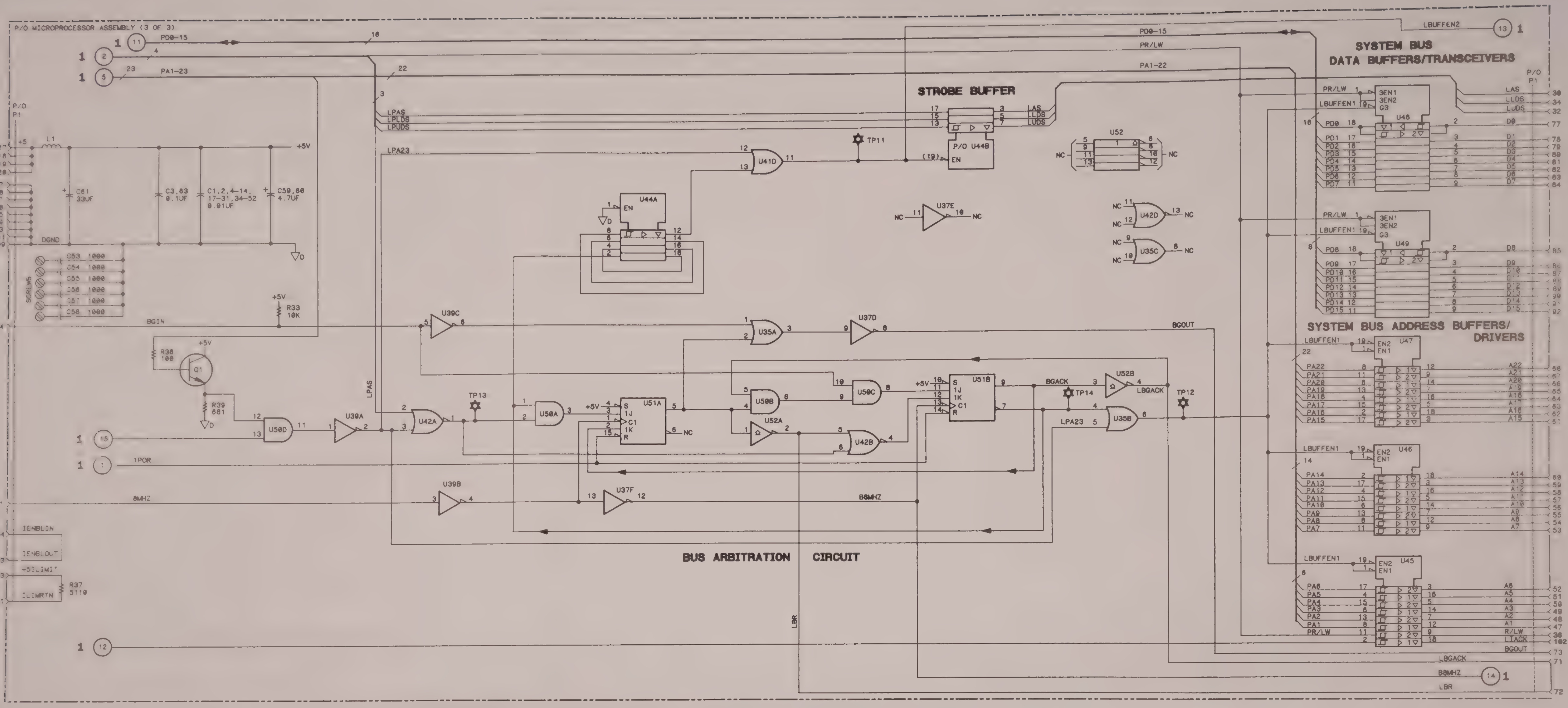
C15,16,32,33
P/O P1
U7-16,24-33

54111/SC11_02/3/9-87

2

CPU ROM, RAM

54111-66511


P/O MICROPROCESSOR ASSEMBLY (3 OF 3)
SYSTEM BUS
DATA BUFFERS/TRANSCEIVERS
STROBE BUFFER
SYSTEM BUS ADDRESS BUFFERS/
DRIVERS
BUS ARBITRATION CIRCUIT
P/O P1
PD0-15
PR/LW
PA1-22
PA1-23
LBUFFEN2
LBUFFEN1
LPAS
LPLDS
LPUDS
LAS
LLDS
LUDS
LPA23
P/O U44B
U44A
U52
U37E
U42D
U35C
U41D
U48
U49
U47
U46
U45
U39C
U35A
U37D
U39A
U42A
U50A
U51A
U50B
U50C
U52A
U42B
U51B
U52B
U35B
U50D
U39B
U37F
TP11
TP12
TP13
TP14
BGIN
BGOUT
BGACK
LBGACK
IPOR
8MHZ
LBR
IENBLIN
IENBLOUT
R33 10K
R38 100
R39 681
R37 5110
Q1
L1
C61 33UF
C3,63 0.1UF
C1,2,4-14, 17-31,34-52 0.01UF
C59,60 4.7UF
C53 1000
C54 1000
C55 1000
C56 1000
C57 1000
C58 1000
SCREWS
DGND
+5V
NC

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5V DGND	14 7	35,37,39,41, 42,50,52
+5V DGND	15 8	[illegible]
+5V DGND	20 10	45-49

NOTES:

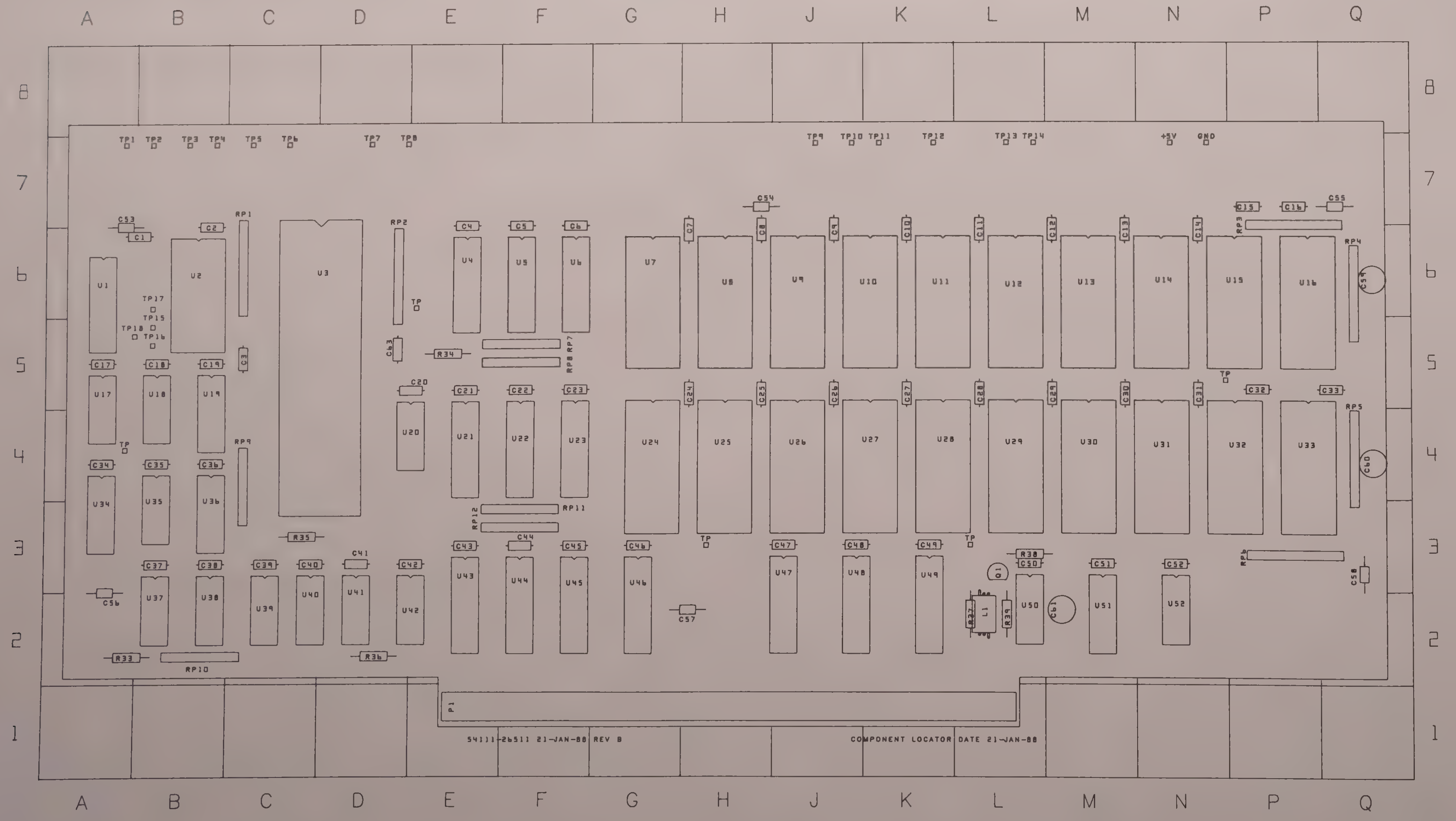
PARTS ON THIS SCHEMATIC

C1-14,17-31,34-61,63
L1
P/O P1
Q1
R33,37-39
TP11-14
U45-52
P/O U35,37,39,41,42,44

54111/SC11_03/3/9-87

3

Data and Address Buffers
Bus Arbitration
54111-66511


A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
8
7
6
5
4
3
2
1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
+5V
GND
U1
U2
U3
U4
U5
U6
U7
U8
U9
U10
U11
U12
U13
U14
U15
U16
U17
U18
U19
U20
U21
U22
U23
U24
U25
U26
U27
U28
U29
U30
U31
U32
U33
U34
U35
U36
U37
U38
U39
U40
U41
U42
U43
U44
U45
U46
U47
U48
U49
U50
U51
U52
RP1
RP2
RP3
RP4
RP7
RP8
RP10
RP11
P1
L1
Q1
54111-26511 21-JAN-88 REV B
COMPONENT LOCATOR DATE 21-JAN-88

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	B-6	C42	E-3	RP6	P-3	U15	P-6
C2	B-6	C43	E-3	RP7	F-5	U16	P-6
C3	C-5	C44	F-3	RP8	F-5	U17	A-5
C4	E-6	C45	F-3	RP9	C-4	U18	B-5
C5	F-6	C46	G-3	RP10	B-2	U19	B-5
C6	F-6	C47	J-3	RP11	F-3	U20	E-4
C7	H-6	C48	J-3	RP12	E-3	U21	E-4
C8	H-6	C49	K-3			U22	F-4
C9	J-6	C50	L-3	TP1	A-7	U23	F-4
C10	K-6	C51	M-3	TP2	B-7	U24	G-4
C11	L-6	C52	N-3	TP3	B-7	U25	H-4
C12	M-6	C53	A-7	TP4	B-7	U26	J-4
C13	M-6	C54	H-7	TP5	C-7	U27	K-4
C14	N-6	C55	Q-7	TP6	C-7	U28	K-4
C15	P-7	C56	A-2	TP7	D-7	U29	L-4
C16	P-7	C57	H-2	TP8	D-7	U30	M-4
C17	A-5	C58	Q-3	TP9	J-7	U31	N-4
C18	B-5	C59	Q-6	TP10	J-7	U32	P-4
C19	B-5	C60	Q-4	TP11	K-7	U33	P-4
C20	E-5	C61	M-2	TP12	K-7	U34	A-3
C21	E-5	C63	D-5	TP13	L-7	U35	B-3
C22	F-5			TP14	L-7	U36	B-3
C23	F-5	L1	L-2	TP15	B-6	U37	B-2
C24	H-5			TP16	B-5	U38	B-2
C25	H-5	P1	E-2	TP17	B-6	U39	C-2
C26	J-5			TP18	A-5	U40	C-2
C27	K-5	Q1	L-3			U41	D-2
C28	L-5			U1	A-6	U42	E-2
C29	M-5	R33	A-1	U2	B-6	U43	E-3
C30	M-5	R34	E-5	U3	D-6	U44	F-3
C31	N-5	R35	C-3	U4	E-6	U45	F-3
C32	P-5	R36	D-2	U5	F-6	U46	G-3
C33	Q-5	R37	L-2	U6	F-6	U47	J-3
C34	A-4	R38	L-3	U7	G-6	U48	J-3
C35	B-4	R39	L-2	U8	H-6	U49	K-3
C36	B-4			U9	J-6	U50	L-2
C37	B-3	RP1	C-7	U10	K-6	U51	M-2
C38	B-3	RP2	D-7	U11	K-6	U52	N-2
C39	C-3	RP3	P-7	U12	L-6		
C40	C-3	RP4	Q-6	U13	M-6		
C41	D-3	RP5	Q-5	U14	N-6		

Component-Level Information Packet
for HP 54112D
Timebase/Trigger Assembly

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PACKARD

While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Contents

This packet consists of the following information:

- Parts list
- Changes
- Component locator
- Schematics – four schematics on two large sheets

54112-66502 Timebase/Trigger Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1-9				NOT ASSIGNED		
C10	0180-3741	4	13	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C11	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C12	0160-6500	7	83	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C14	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C21	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C26	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C27	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C28	0160-3802	6	1	CAPACITOR-FXD 150PF +-10% 100VDC CER	28480	0160-3802
C29	0160-3713	8	1	CAPACITOR-FXD 4700PF +-10% 250VDC	28480	0160-3713
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-3874	2	6	CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-4787	8	1	CAPACITOR-FXD 22PF +-5% 100VDC CER 0+-30	28480	0160-4787
C40	0160-5467	3	1	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C41	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-3878	6	2	CAPACITOR-FXD 1000PF +-20% 100VDC CER	28480	0160-3878
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46				NOT ASSIGNED		
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-4389	6	2	CAPACITOR-FXD 100PF +-5% 200VDC CER	28480	0160-4389
C52-70				NOT ASSIGNED		
C71	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C73	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C75	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C78	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

54112-66502 Timebase/Trigger Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C79	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C88				NOT ASSIGNED		
C89	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C90	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C91	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C92	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C93	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C94	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C95	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C96	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C97	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C98	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C99	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C100	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C101	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C102	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C103	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C104	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C105	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C106	0160-3879	7	11	CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C107	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C108	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C109	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C110	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C111	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C112	0160-3878	6		CAPACITOR-FXD 1000PF +-20% 100VDC CER	28480	0160-3878
C113	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C114	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C115	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C116	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C117				NOT ASSIGNED		
C118	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C119	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C120	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C121	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C122				NOT ASSIGNED		
C123	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C124	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C125	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C126	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C127	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C128	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C129	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C130	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C131	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C132	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C133	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C134	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C135	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C136	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C137	0160-3873	1	1	CAPACITOR-FXD 4.7PF +-.5PF 200VDC CER	28480	0160-3873
C138	0160-3874	2		CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C139	0160-3874	2		CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C140	0160-3874	2		CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C141	0160-3874	2		CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C142	0160-3874	2		CAPACITOR-FXD 10PF +-.5PF 200VDC CER	28480	0160-3874
C143	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C144	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741
C145	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C146	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C147	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C148	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C149	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C150	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C151	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C152	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C153	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C154	0160-4389	6		CAPACITOR-FXD 100PF +-5% 200VDC CER	28480	0160-4389
CR1	1901-0047	8	8	DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR2	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR3	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR4	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR5	1901-0050	3	8	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR6	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR7-8				NOT ASSIGNED		
CR9	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15				NOT ASSIGNED		
CR16	1901-0535	9	2	DIODE-SCHOTTKY SM SIG	28480	1901-0535
CR17	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR18	1901-0535	9		DIODE-SCHOTTKY SM SIG	28480	1901-0535
CR19	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR20	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
CR21	1901-0047	8		DIODE-SWITCHING 20V 75MA 10NS DO-35	28480	1901-0047
DL1	1810-1069	3	1	DELAY LINE PASSIVE DEVICE W/SINGLE	28480	1810-1069
DL2	1810-0841	7	1	DELAY LINE PASSIVE DEVICE W/SINGLE	28480	1810-0841
E1	9170-0029	3	1	CORE-SHIELDING BEAD	28480	9170-0029
E2	0340-1074	2	3	INSULATOR TO-220	28480	0340-1074
H1	0515-0372	2	6	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H2	0515-0664	5	3	SCREW MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H3	5041-2676	3	2	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
J1	1251-4836	2	1	CONN-POST TYPE 2.5-PIN-SPCG 2-CONT	28480	1251-4836
J2	1250-1368	7	12	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J3	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J4	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J5	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J6	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J7	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J8	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J9	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J10	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J11	1252-1920	1	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1920
J12	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J13	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J14	1250-1368	7		CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
L1	5081-7682	5	8	CHOKE RF	28480	5081-7682
L2	5081-7682	5		CHOKE RF	28480	5081-7682
L3	5081-7682	5		CHOKE RF	28480	5081-7682
L4	5081-7682	5		CHOKE RF	28480	5081-7682
L5	5081-7682	5		CHOKE RF	28480	5081-7682
L6	5081-7682	5		CHOKE RF	28480	5081-7682
L7	5081-7682	5		CHOKE RF	28480	5081-7682
L8	9170-1366	3	14	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L9	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L10	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L11	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L12	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L13	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L14	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L15	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L16	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L17	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L18				NOT ASSIGNED		
L19	5081-7682	5		CHOKE RF	28480	5081-7682
L20	9100-2251	0	1	INDUCTOR RF-CH-MLD 220NH +-10%	28480	9100-2251
L21	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L22	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L23	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L24	9170-1366	3		CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
MP1	54112-00602	2	1	SHIELD-TIMEBASE/TRIGGER	28480	54112-00602
MP2	54111-45004	1	1	EXTRACTOR-RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR-LEFT	28480	54111-45005
MP4	54112-21101	0	3	HEATSINK	28480	54112-21101
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1855-0020	8	1	TRANSISTOR J-FET N-CHAN D-MODE TO-18 SI	04713	SFE793
Q2	1854-0636	0	9	TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q3	1854-0215	1	3	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
Q4	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	27014	2N3906
Q5	1854-0215	1		TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
Q6	1855-0540	7	2	TRANSISTOR J-FET P-CHAN D-MODE TO-18 SI	17856	2N5115(SEL)
Q7	1854-0248	0	1	TRANSISTOR-DUAL NPN 2N4044 TO-77	72799	2N4044
Q8	1855-0540	7		TRANSISTOR J-FET P-CHAN D-MODE TO-18 SI	17856	2N5115(SEL)

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
Q9	1854-0296	8	3	TRANSISTOR NPN SI TO-92 PD=350W	04713	MPS6543 SELECTED
Q10	1854-0296	8		TRANSISTOR NPN SI TO-92 PD=350W	04713	MPS6543 SELECTED
Q11	1854-0296	8		TRANSISTOR NPN SI TO-92 PD=350W	04713	MPS6543 SELECTED
Q12-13				NOT ASSIGNED		
Q14	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q15	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q16	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q17	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q18	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q19	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q20	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q21	1854-0636	0		TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q22	1854-0215	1		TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
R1-6				NOT ASSIGNED		
R7	0698-3442	9	5	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R8	0698-4422	7	1	RESISTOR 1.27K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1271-F
R9-10				NOT ASSIGNED		
R11	0698-3442	9		RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R12	0698-3446	3	3	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R13	0698-3442	9		RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R14	0698-3438	3	1	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-147R-F
R15	0698-3442	9		RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R16	0698-3446	3		RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R17	0698-3442	9		RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R18	0698-3700	2	1	RESISTOR 715 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-715R-F
R19	0757-0465	6	7	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R20	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R21	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R22	0757-0398	4	16	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R23	0698-3498	5	1	RESISTOR 8.66K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-866R-F
R24	0698-8827	4	1	RESISTOR 1M 1% 0.125W TF TC=0+-100	28480	0698-8827
R25	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R26	0757-0444	1	1	RESISTOR 12.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1212-F
R27	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R28	0698-3457	6	1	RESISTOR 316K 1% 0.125W TF TC=0+-100	28480	0698-3457
R29	0757-0472	5	1	RESISTOR 200K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2003-F
R30	0757-0288	1	1	RESISTOR 9.09K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-9091-F
R31	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R32	0698-3444	1	2	RESISTOR 316 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-316R-F
R33	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R34	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R35	0757-0401	0	20	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R36	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R37	0698-3226	7	1	RESISTOR 6.49K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6491-F
R38	0757-0346	2	1	RESISTOR 10 1% 0.125W TF TC=0+-100	28480	0757-0346
R39				NOT ASSIGNED		
R40	0757-0280	3	14	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R41	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R42	0757-0459	8	1	RESISTOR 56.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5622-F
R43	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R44	0757-0394	0	19	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R45	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R46	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R47	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R48	0757-0467	8	1	RESISTOR 121K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1213-F
R49	0757-0465	6		RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1003-F
R50	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R51	0698-4431	8	2	RESISTOR 2.05K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2051-F
R52	0698-4431	8		RESISTOR 2.05K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2051-F
R53	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R54	2100-3123	0	1	RESISTOR-TRMR 500 10% TKF SIDE-ADJ	32997	3006P-1-501
R55	0757-0418	9	1	RESISTOR 619 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-619R-F
R56	0698-4418	1	1	RESISTOR 205 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-205R-F
R57	0757-0411	2	19	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R58	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R59	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R60	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R61	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R62	0757-0397	3	19	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R63	0757-0416	7	4	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R64	0757-0416	7		RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R65	0757-0399	5	6	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R66	0757-0399	5		RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R67	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R68	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R69-73				NOT ASSIGNED		
R74	0698-0085	0	2	RESISTOR 2.61K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2611-F
R75	0757-0399	5		RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R76	0757-0399	5		RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R77				NOT ASSIGNED		
R78	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R79	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R80	0757-0410	1	2	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
R81	0757-0410	1		RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
R82	0757-0442	9		RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R83	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R84	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R85	0698-0085	0		RESISTOR 2.61K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2611-F
R86	0698-8959	3	1	RESISTOR 619K 1% 0.125W TF TC=0+-100	28480	0698-8959
R87	0698-3156	2	1	RESISTOR 14.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1472-F
R88	0698-3444	1		RESISTOR 316 1% 0.125W TF TC=0+-100	28480	0698-3444
R89	0698-4002	9	2	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R90	0757-0449	5		RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R91	0698-4002	9		RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R92	0698-8958	2	1	RESISTOR 511K 1% 0.125W TF TC=0+-100	28480	0698-8958
R93	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R94	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R95	0757-0399	5		RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R96	0757-0399	5		RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-82R5-F
R97	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R98	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R99	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R100	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R101-108				NOT ASSIGNED		
R109	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R110	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R111	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R112	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R113	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R114	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R115	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R116	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R117	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R118	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R119	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R120	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R121	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R122	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R123	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R124	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R125				NOT ASSIGNED		
R126	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R127				NOT ASSIGNED		
R128	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R129	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R130				NOT ASSIGNED		
R131	0757-0427	0	5	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R132				NOT ASSIGNED		
R133	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R134-135				NOT ASSIGNED		
R136	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R137	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R138				NOT ASSIGNED		
R139	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R140	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R141	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R142	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R143-144				NOT ASSIGNED		
R145	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R146	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R147	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R148-149				NOT ASSIGNED		
R150	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R151	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R152-154				NOT ASSIGNED		
R155	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R156	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R157-158				NOT ASSIGNED		
R159	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R160	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R161	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R162	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R163	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R164	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R165	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R166	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R167	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R168	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R169	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R170	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R171	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R172	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R173	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R174	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R175	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R176				NOT ASSIGNED		
R177	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R178	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R179	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R180	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R181	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R182	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R183	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R184	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R185	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R186	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R187	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R188	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R189	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R190	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R191	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R192	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R193	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F
R194				NOT ASSIGNED		
R195	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F
R196-197				NOT ASSIGNED		
R198	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R199	0698-3446	3		RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R200	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R201	0757-0984	4	2	RESISTOR 10 1% 0.5W TF TC=0+-100	28480	0757-0984
R202	0757-0984	4		RESISTOR 10 1% 0.5W TF TC=0+-100	28480	0757-0984
R203	0698-3398	4	1	RESISTOR 46.4 1% 0.5W TF TC=0+-100	28480	0698-3398
R204				NOT ASSIGNED		
R205	2100-3103	6	1	RESISTOR-TRMR 10K 10% TKF SIDE-ADJ	32997	3006P-1-103
R206	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R207	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R208	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R209	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R210	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R211	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R212	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R213-214				NOT ASSIGNED		
R215	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R216	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R217	0698-3427	0	1	RESISTOR 13.3 1% 0.125W TF TC=0+-100	28480	0698-3427
R218	0698-6295	6	1	RESISTOR 300 0.1% 0.125W TF TC=0+-50	28480	0698-6295
R219	0699-1203	8	1	RESISTOR 120 0.1% 0.125W TF TC=0+-25	28480	0699-1203
R220	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F

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R221	0757-0400	9	1	RESISTOR 90.9 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-90R9-F
R222	0757-0416	7		RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R223	0757-0416	7		RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R224	0698-3430	5	2	RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R225	0698-3430	5		RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R226	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R227				NOT ASSIGNED		
R228	0698-0082	7	2	RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R229	0698-0082	7		RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R230	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R231	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R232	0698-4458	9	1	RESISTOR 590 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-590R-F
R233	0698-3405	4	1	RESISTOR 422 1% 0.5W TF TC=0+-100	28480	0698-3405
R234	0757-0453	2	1	RESISTOR 30.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3012-F
R235	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
RP1	1810-0204	6	4	NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP2	1810-0204	6		NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP3	1810-0204	6		NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP4	1810-0204	6		NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP5	1810-0272	8	4	NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP6	1810-0272	8		NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP7	1810-0272	8		NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP8	1810-0272	8		NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP9	1810-0332	1	1	NETWORK-RES 8-SIP 680.0 OHM X 7	28480	1810-0332
RP10				NOT ASSIGNED		
RP11	1810-0318	3	1	NETWORK-RES 6-SIP 1.0K OHM X 5	28480	1810-0318
U1	1826-0271	0	1	IC OP AMP GP 8-DIP-P PKG	01295	UA741CP
U2	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U3	1820-1052	5	1	IC XLTR ECL ECL-TO-TTL QUAD 2-INP	04713	MC10125L
U4	1NB7-8142	4	1	IC HYBRID MUX-SYNC	28480	1NB7-8142
U5	1820-2654	5	1	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U6	1820-3461	4	2	IC RCVR ECL/10KH LINE RCVR QUAD	04713	MC10H115P
U7	1820-3461	4		IC RCVR ECL/10KH LINE RCVR QUAD	04713	MC10H115P
U8	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U9	1820-2715	9	1	IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U10	1813-0247	3	1	CLOCK-OSCILLATOR-XTAL 32.768-KHZ 0.0045%	28480	1813-0247
U11	1NB4-5008	9		IC HYBRID 24-BIT COUNTER	28480	1NB4-5008
U12	1820-3337	3	2	IC GATE ECL/10KH AND QUAD 2-INP	04713	MC10H104P
U13	1820-3337	3		IC GATE ECL/10KH AND QUAD 2-INP	04713	MC10H104P
U14	1820-2823	0	6	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U15	1820-2823	0		IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U16	1820-1112	8	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U17	1820-2849	0	2	IC FF ECL/10KH D-M/S DUAL	04713	MC10H131P
U18	1820-2823	0		IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U19	1820-2823	0		IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U20	1820-2823	0		IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U21	1820-4081	6	1	IC XLTR ECL/10KH TTL-TO-ECL QUAD	04713	MC10H124P
U22	1826-0890	9	1	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U23	1820-0810	1	1	IC RCVR ECL LINE RCVR TPL 2-INP	04713	MC10116P
U24	1SE6-0056	0	1	IC HYBRID TIMEBASE	28480	1SE6-0056
U25	1813-0546	5	1	OSCILLATOR-CRYSTALOUTPUT:400MHZ,ECL;TEMP	28480	1813-0546

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U26	1826-0524	6	1	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U27	1826-1018	5	1	IC ANALOG SWITCH 4 SPST 16 -DIP-P	17856	DG201ACJ
U28	1826-1378	0	1	IC COMPARATOR HS DUAL 16-DIP-C PKG	34335	AM6687DL
U29	1826-0393	7	2	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U30	1820-2849	0		IC FF ECL/10KH D-M/S DUAL	04713	MC10H131P
U31	1820-2823	0		IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U32	1820-2711	5	4	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U33	1826-0138	8	5	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U34	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U35	1820-2757	9	3	IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U36	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U37	1820-2757	9		IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U38	1826-0883	0	1	IC COMPARATOR HS 16-DIP-C PKG	34335	AM685DL
U39	1826-0281	2	1	IC V RGLTR-FXD-NEG 14.3/15.7V TO-92 PKG	04713	MC79L15ACP
U40	1826-0527	9	4	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U41	1826-0393	7	1	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U42	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U43	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U44	1820-2757	9		IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U45	1820-1198	0	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS03N
U46	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U47	1826-0274	3	1	IC V RGLTR-FXD-POS 14.4/15.6V TO-92 PKG	04713	MC78L15ACP
U48	1826-0138	8		IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U49	1820-0495	8	1	IC DCDR TTL 4-TO-16-LINE 4-INP	01295	SN74154N
U50	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U51	1826-1246	1	1	IC D/A CONVERTER12-BIT 28-CERDIP BPLR	24355	AD667AD
U52	1826-0527	9		IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U53	1826-0527	9		IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U54	1826-0215	2	1	IC V RGLTR-FXD-NEG 5/5.4V TO-220 PKG	04713	MC7905.2CT
U55	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U56	1820-2711	5		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS541N
U57	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U58	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U59	1820-0668	7	1	IC BFR TTL NON-INV HEX 1-INP	01295	SN7407N
U60	1826-0527	9		IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
XU1	1200-0690	1	3	SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690
XU2	1200-0690	1		SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690
XU3	1200-0690	1		SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690

CHANGE 1, for 54112-66502

Schematic 3

Three resistors were changed to optimize the performance of the Fine Interpolator. There was no change in the part number of the assembly.

Three resistors (R90, R92, and R100) were changed to increase stability in the current sources of the fine interpolator. The three resistor values are interdependent. Replace a resistor with the same value as the original, unless resistors are being changed to correct interpolator failure. If you are correcting an interpolator failure, replace all three resistors with the new values.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	R90 to	0757-0442	9	RESISTOR 10K 1% 0.125W	24546	CT4-1/8-T0-1002-F
	R92 to	0757-0486	1	RESISTOR 750K 1% 0.125W	24546	CT4-1/8-T0-7503-F
	R100 to	0757-0420	3	RESISTOR 750 1% 0.125W	24546	CT4-1/8-T0-750R-F

CHANGE 2, for 54112-66502

Three resistors were changed to optimize the performance. There was no change in the part number of the assembly.

Schematic 1

Resistor R55 was changed to center the adjustment of the calibrator output.

Schematic 3

Resistors R88 and R100 were replaced to optimize performance of the fine interpolator.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	R55 to	0757-0421	4	RESISTOR 825 1% 0.125W	24546	CT4-1/8-T0-825R-F
	R88 to	0757-0407	6	RESISTOR 200 1% 0.125W	24546	CT4-1/8-T0-201-F
	R100 to	0757-0421	4	RESISTOR 825 1% 0.125W	24546	CT4-1/8-T0-825R-F

CHANGE 3, for 54112-66502

Schematic 3

The Mux/Sync hybrid, U4, was changed to a selected part. There was no change in the part number of the assembly. U4 was changed again in CHANGE 4.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U4 to	54112-89501	6	IC HYBRID MUX/SYNC	28480	54112-89501

CHANGE 4, for 54112-66505

Schematic 3

The Mux/Sync hybrid, U4, was changed and an adjustment was eliminated. If U4 is being replaced on an assembly which has the adjustment, make the following changes to accomodate the new mux/sync hybrid. If you have questions, consult your HP customer service representative.

Delete R205

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	R199 to	0698-3443	0	RESISTOR 287 1% 0.125W	24546	CT4-1/8-T0-287R-F
	U4 to	1NB7-8189	9	IC HYBRID MUX/SYNC	28480	1NB7-8189

CHANGE 5, for 54112-66505

Schematic 4

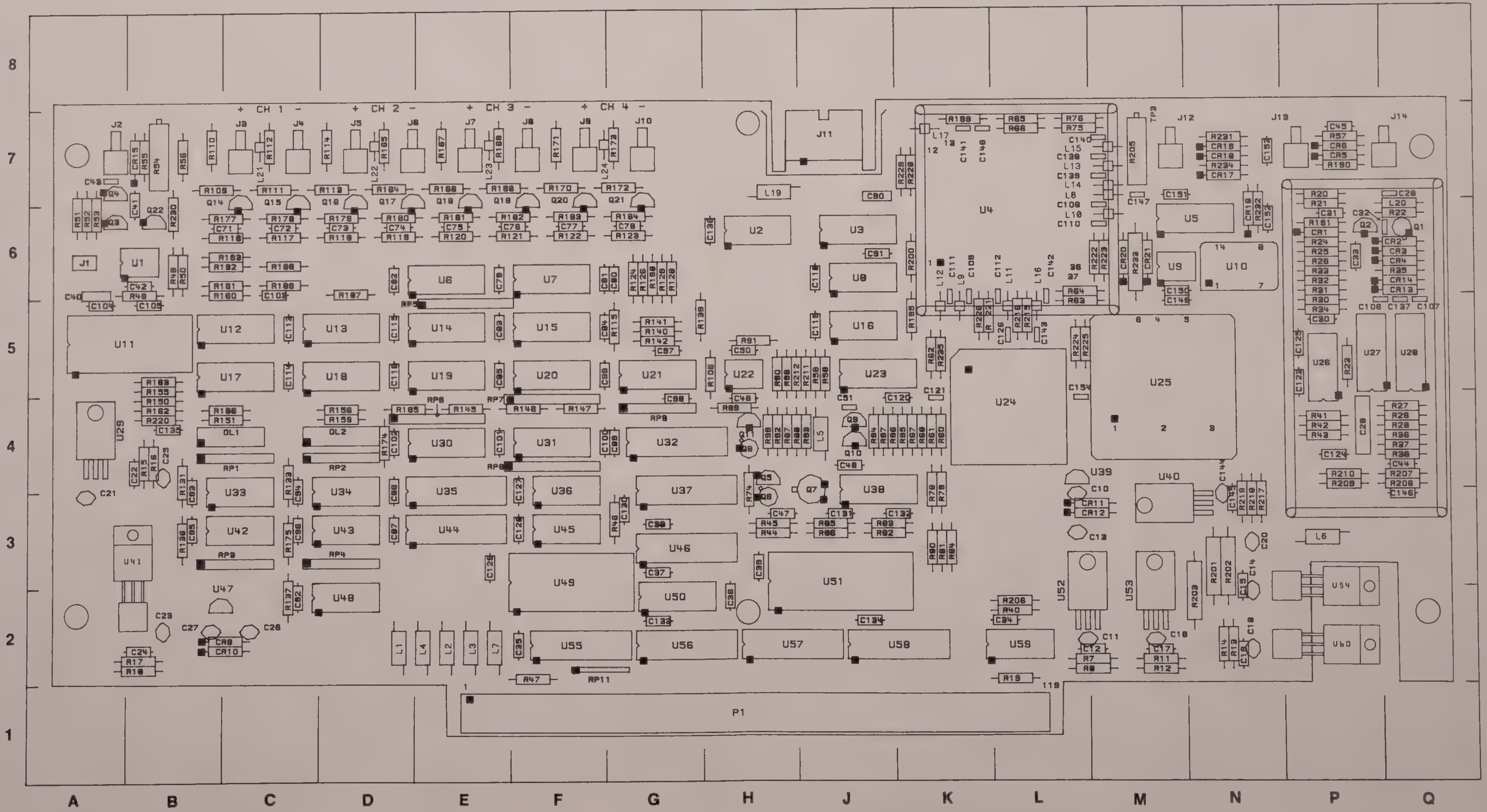
A capacitor was added to control noise. C46 was added between U[illegible] pin 6 and AGND.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
ADD:						
	C46	0160-4574	1	CAPACITOR-FXD 1000PF 100V	28480	0160-4574

NOTES:

54112-66502 Timebase/Trigger Assembly Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C10	M-3	C90	J-7	C151	M-7	L15	L-7	R35	Q-6	R109	B-6	R185	D-4	U2	H-6
C11	M-2	C91	J-6	C152	N-6	L16	L-6	R36	Q-4	R110	B-6	R186	C-4	U3	J-6
C12	L-2	C92	C-2	C153	N-7	L17	K-7	R37	Q-4	R111	C-7	R187	D-6	U4	K-6
C13	M-3	C93	B-3	C154	L-5	L19	H-7	R38	Q-4	R112	C-7	R188	C-6	U5	N-6
C14	N-3	C94	C-3			L20	Q-6	R40	L-2	R113	D-7	R189	C-6	U6	E-6
C15	N-2	C95	B-3	CR1	P-6	L21	C-7	R41	P-4	R114	D-7	R190	P-7	U7	F-6
C16	M-2	C96	C-3	CR2	Q-6	L22	D-7	R42	P-4	R115	G-5	R191	P-6	U8	J-6
C17	M-2	C97	G-5	CR3	Q-6	L23	E-7	R43	P-4	R116	C-6	R192	C-6	U9	M-6
C18	N-2	C98	G-4	CR4	Q-6	L24	F-7	R44	H-3	R117	C-6	R193	C-6	U10	N-6
C19	N-2	C99	F-5	CR5	P-7			R45	H-3	R118	D-6	R195	K-5	U11	A-5
C20	N-3	C100	F-4	CR6	P-7	P1	H-1	R46	G-3	R119	D-6	R198	G-6	U12	C-5
C21	A-3	C101	E-4	CR9	B-2			R47	F-2	R120	E-6	R199	K-7	U13	D-5
C22	B-4	C102	D-4	CR10	B-2	Q1	Q-6	R48	B-6	R121	E-6	R200	K-6	U14	E-5
C23	B-2	C103	C-6	CR11	M-3	Q2	P-6	R49	B-6	R122	F-6	R201	N-3	U15	F-5
C24	B-2	C104	A-5	CR12	M-3	Q3	A-6	R50	B-6	R123	G-6	R202	N-3	U16	J-5
C25	B-4	C105	B-5	CR13	Q-6	Q4	A-7	R51	A-6	R124	G-6	R203	N-2	U17	C-5
C26	C-2	C106	P-5	CR14	Q-6	Q5	H-4	R52	A-6	R126	G-6	R205	M-7	U18	D-5
C27	B-2	C107	Q-5	CR15	B-7	Q6	H-3	R53	A-6	R128	G-6	R206	L-2	U19	E-5
C28	Q-7	C108	L-6	CR16	N-6	Q7	J-3	R54	B-6	R129	G-6	R207	Q-4	U20	F-5
C29	P-4	C109	K-6	CR17	N-7	Q8	H-4	R55	B-6	R131	B-4	R208	Q-4	U21	G-5
C30	P-5	C110	L-6	CR18	N-7	Q9	J-4	R56	B-6	R133	C-4	R209	P-4	U22	H-5
C31	P-6	C111	K-6	CR19	N-7	Q10	J-4	R57	P-7	R136	B-3	R210	P-4	U23	J-5
C32	P-6	C112	L-6	CR20	M-6	Q11	H-4	R58	J-5	R137	C-2	R211	J-5	U24	L-4
C33	P-6	C113	C-5	CR21	M-6	Q14	B-7	R59	J-5	R139	G-5	R212	H-5	U25	M-5
C34	L-2	C114	C-5			Q15	C-7	R60	K-4	R140	G-5	R215	L-5	U26	P-5
C35	F-2	C115	D-5	DL1	C-4	Q16	D-7	R61	K-4	R141	G-5	R216	L-5	U27	P-5
C36	H-2	C116	D-5	DL2	D-4	Q17	D-7	R62	K-5	R142	G-5	R217	N-3	U28	Q-5
C37	G-3	C118	J-6			Q18	E-7	R63	L-5	R145	E-4	R218	N-3	U29	A-4
C38	G-3	C119	J-5	E1	P-6	Q19	E-7	R64	L-5	R146	F-4	R219	N-3	U30	E-4
C39	H-3	C120	K-4			Q20	F-7	R65	L-7	R147	F-4	R220	B-4	U31	F-4
C40	A-6	C121	K-4	J1	A-6	Q21	G-7	R66	L-7	R150	B-4	R221	K-5	U32	G-4
C41	B-6	C123	P-5	J2	A-7	Q22	B-6	R67	K-4	R151	C-4	R222	M-6	U33	C-3
C42	B-6	C124	P-4	J3	C-7			R68	K-4	R155	B-5	R223	M-6	U34	D-3
C43	A-7	C125	P-5	J4	C-7	R7	L-2	R74	H-3	R156	D-4	R224	L-5	U35	E-3
C44	Q-4	C126	L-5	J5	D-7	R8	L-2	R75	L-7	R159	D-4	R225	L-5	U36	F-3
C45	P-7	C127	F-3	J6	D-7	R11	M-2	R76	L-7	R160	C-6	R226	K-5	U37	G-3
C47	H-3	C128	F-3	J7	E-7	R12	M-2	R78	K-3	R161	C-6	R228	K-7	U38	J-3
C48	H-4	C129	E-3	J8	F-7	R13	N-2	R79	K-3	R162	B-4	R229	K-7	U39	L-4
C49	J-4	C130	G-3	J9	F-7	R14	N-2	R80	K-3	R163	B-5	R230	B-6	U40	M-4
C50	H-5	C131	H-3	J10	G-7	R15	B-4	R81	K-3	R164	D-7	R231	N-7	U41	B-3
C51	J-4	C132	K-3	J11	J-7	R16	B-4	R82	J-3	R165	D-7	R232	N-6	U42	C-3
C71	C-6	C133	G-2	J12	M-7	R17	B-2	R83	J-3	R166	E-7	R233	M-6	U43	D-3
C72	C-6	C134	J-2	J13	N-7	R18	B-2	R84	K-3	R167	E-7	R234	N-7	U44	E-3
C73	D-6	C135	B-4	J14	Q-7	R19	L-2	R85	J-3	R168	E-7	R235	K-5	U45	F-3
C74	D-6	C136	H-6			R20	P-7	R86	J-3	R169	E-7			U46	G-3
C75	E-6	C137	Q-5	L1	D-2	R21	P-6	R87	H-4	R170	F-7	RP1	C-4	U47	B-2
C76	E-6	C138	L-7	L2	E-2	R22	Q-6	R88	H-4	R171	F-7	RP2	D-4	U48	D-2
C77	F-6	C139	L-7	L3	E-2	R23	P-5	R89	H-4	R172	G-7	RP3	C-2	U49	F-3
C78	G-6	C140	L-7	L4	E-2	R24	P-6	R90	H-5	R173	G-7	RP4	D-2	U50	G-2
C79	E-6	C141	K-7	L5	J-4	R25	P-6	R91	H-5	R174	D-4	RP5	D-5	U51	J-3
C80	G-6	C142	L-6	L6	P-3	R26	P-6	R92	H-4	R175	C-3	RP6	E-4	U52	L-2
C81	F-6	C143	L-5	L7	E-2	R27	Q-4	R93	J-4	R177	C-6	RP7	E-4	U53	M-2
C82	D-6	C144	N-4	L8	L-7	R28	Q-4	R94	J-4	R178	C-6	RP8	E-4	U54	N-3
C83	E-5	C145	N-3	L9	K-6	R29	Q-4	R95	K-4	R179	D-6	RP9	G-4	U55	F-2
C84	F-5	C146	Q-3	L10	L-6	R30	P-5	R96	J-4	R180	D-6	RP11	F-2	U56	G-2
C85	E-5	C147	M-6	L11	L-6	R31	P-6	R97	J-4	R181	E-6			U57	H-2
C86	D-3	C148	K-7	L12	K-6	R32	P-6	R98	H-5	R182	E-6	TP3	M-7	U58	J-2
C87	D-3	C149	M-5	L13	L-7	R33	P-6	R99	H-4	R183	F-6			U59	L-2
C89	G-4	C150	M-6	L14	L-7	R34	P-5	R100	H-5	R184	G-6	U1	B-6	U60	N-2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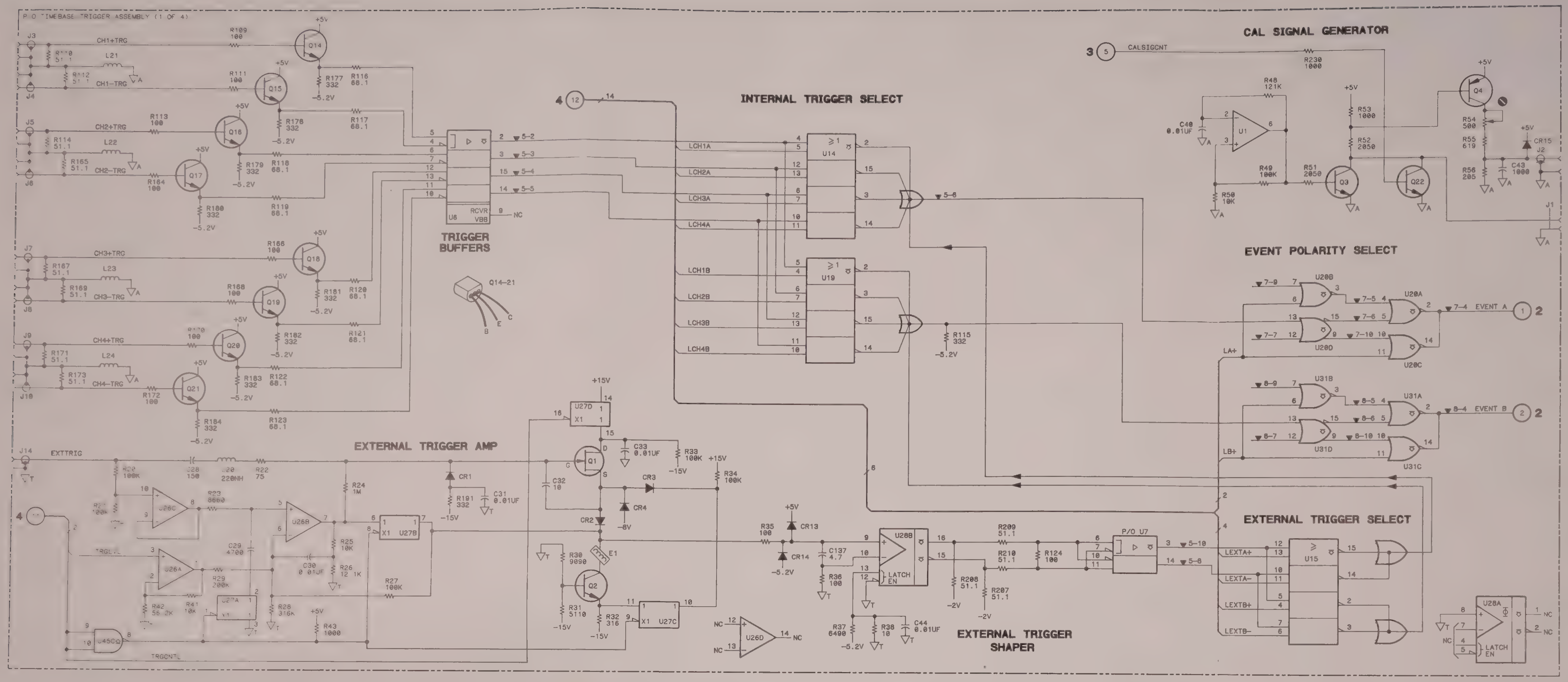
RP11

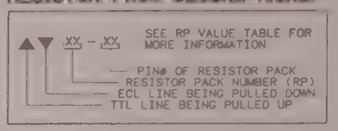
Component Locator for Timebase/Trigger Assembly

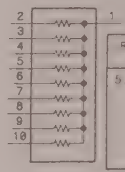

P/O TIMEBASE/TRIGGER ASSEMBLY (1 OF 4)
CAL SIGNAL GENERATOR
INTERNAL TRIGGER SELECT
TRIGGER BUFFERS
EVENT POLARITY SELECT
EXTERNAL TRIGGER AMP
EXTERNAL TRIGGER SELECT
EXTERNAL TRIGGER SHAPER
CH1+TRG
CH1-TRG
CH2+TRG
CH2-TRG
CH3+TRG
CH3-TRG
CH4+TRG
CH4-TRG
EXTTRIG
TRGCNTL
CALSIGCNT
LCH1A
LCH2A
LCH3A
LCH4A
LCH1B
LCH2B
LCH3B
LCH4B
LEXTA+
LEXTA-
LEXTB+
LEXTB-
LA+
LB+
EVENT A
EVENT B
Q14-21

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5V -5.2V	7 4	U1
-5.2V AGND	8 1,16	U6,7,14,15,19, 20,31
+15V -15V	4 11	J26
+15V TGND -15V NC	13 5 4 12	J27
+5V TGND -5.2V	11 3,14 6	J28
+5V AGND	14 7	J45

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP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RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
5,7,8	330X9	1	-5.2V

PARTS ON THIS SCHEMATIC

C28-33,40,43,44,137
CR1-4,13-15
E1
J1-10,14
L20-24
Q1-4,14-22
R20-38,41-43,48-56,109-124,164-173,
177-184,191,207-210,230
P/O RP5,7,8
U1,6,14,15,19,20,26-28,31
P/O U7,45

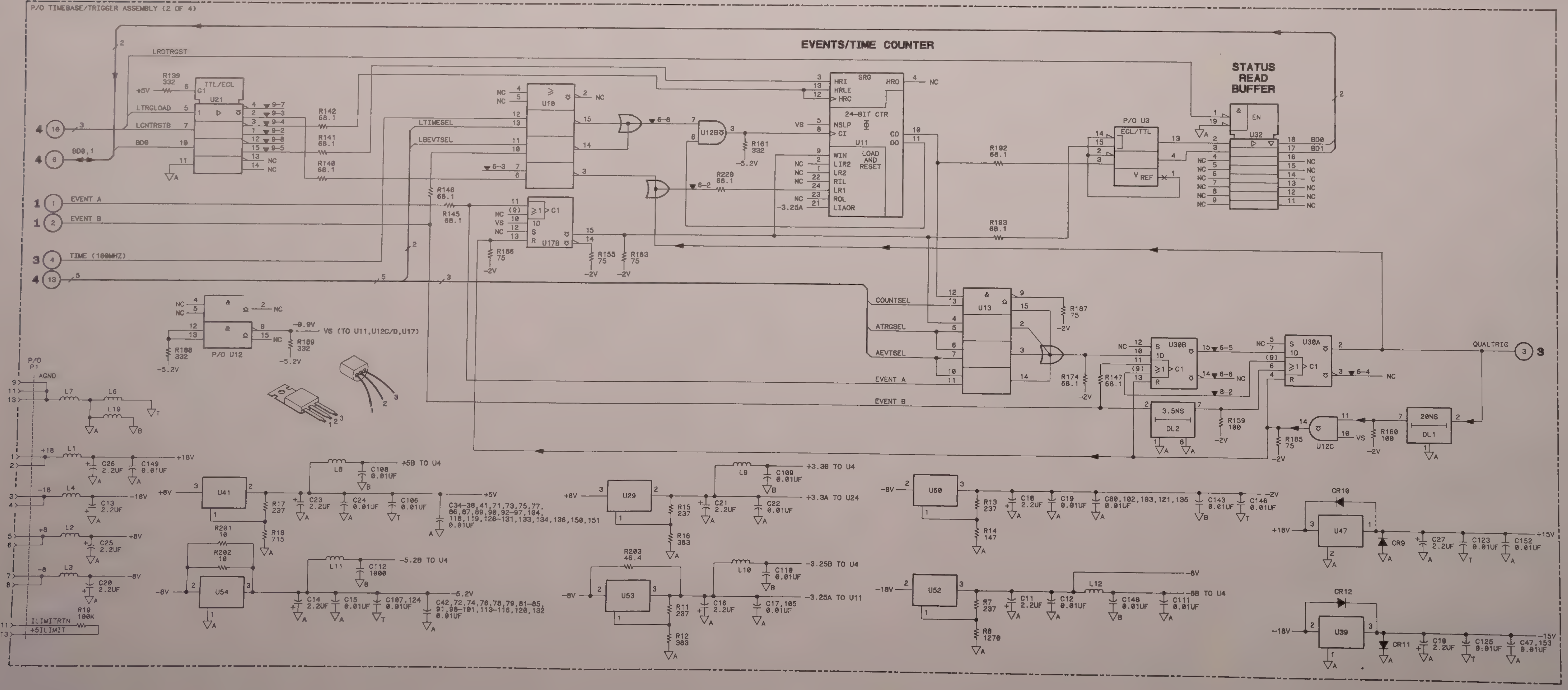
54112/SC02_01/4/9-87

1

External Trigger Amp, Trigger Select, Cal Signal Generator

54112-66502

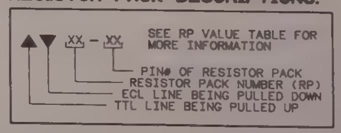
Timebase/Trigger Assembly

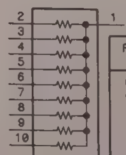

P/O TIMEBASE/TRIGGER ASSEMBLY (2 OF 4)
EVENTS/TIME COUNTER
STATUS READ BUFFER
LRDTRGST
LTRGLOAD
LCNTRSTB
BD0,1
BD0
LTIMESEL
LBEVTSEL
EVENT A
EVENT B
TIME (100MHZ)
24-BIT CTR
COUNTSEL
ATRGSEL
AEVTSEL
QUALTRIG
VS (TO U11,U12C/D,U17)
+5V
-5.2V
-3.25A TO U11
-3.25B TO U4
-5.2B TO U4
+3.3B TO U4
+3.3A TO U24
+5B TO U4
-8B TO U4
+18V
-18V
+15V
-15V
ILIMITRTN
+5ILIMIT
3.5NS
20NS

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
-5.2V AGND	8 16	U3
+5V AGND -3.25V NC	20 6,19 7,18 14-17	U11
-5.2V AGND	8 1,16	U12,13,17,18,30
+5V AGND -5.2V	9 16 8	U21
+5V AGND	20 10	U32

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP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RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
6,8	330X9	1	-5.2V
9	680X7	1	-5.2V

PARTS ON THIS SCHEMATIC

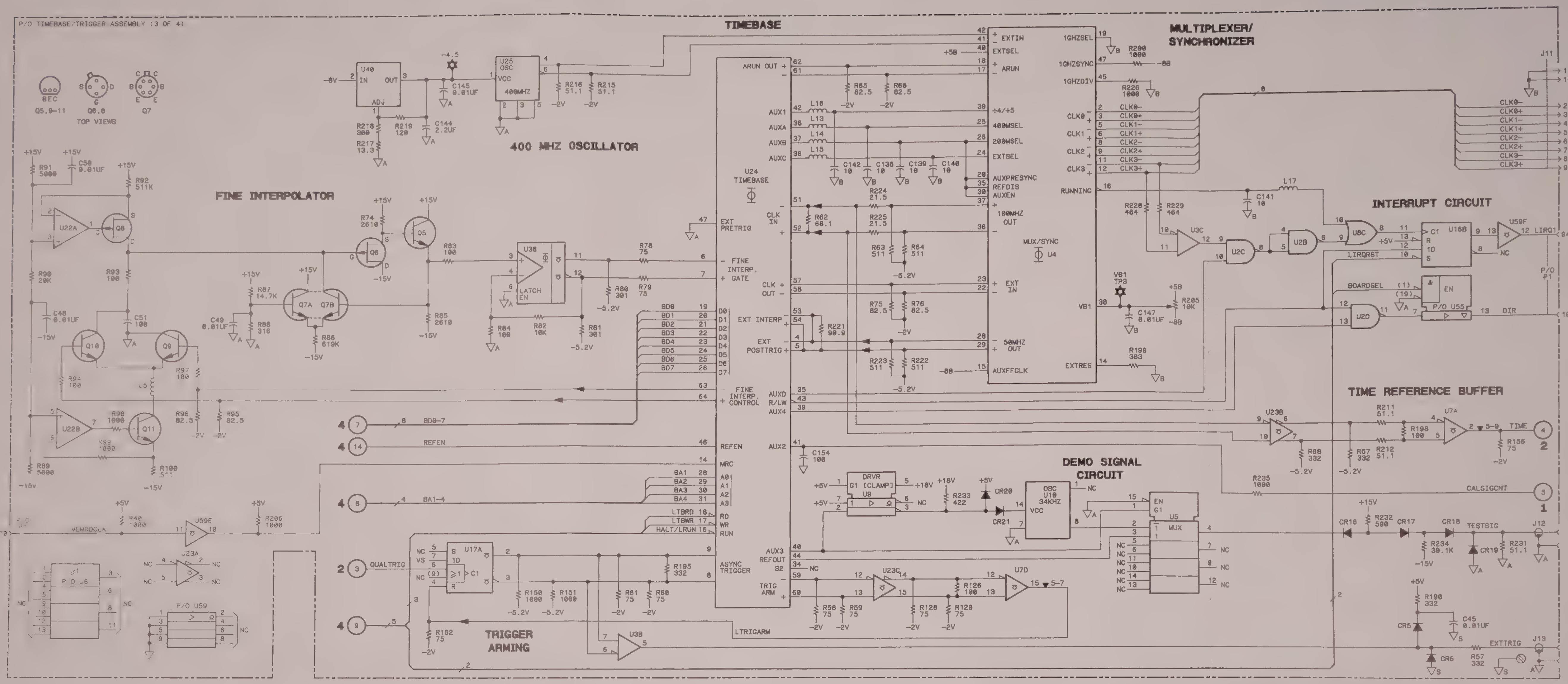
C10-27,34-38,41,42,47,71-87,89-116,
118-121,123-136,143,146,148-153
CR9-12
DL1,2
L1-4,6-12,19
P/O P1
R7,8,11-19,139-142,145-147,155,159-161,
163,174,185-189,192,193,201-203,220
P/O RP6,8,9
U11-13,18,21,29,30,32,39,41,47,52-54,60
P/O U3,17

54112/SC02_02/4/9-87

2

Events/Time Counter, Power Supplies and Distribution

54112-66502

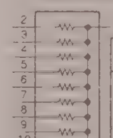

P/O TIMEBASE/TRIGGER ASSEMBLY (3 OF 4)
TIMEBASE
MULTIPLEXER/ SYNCHRONIZER
400 MHZ OSCILLATOR
FINE INTERPOLATOR
INTERRUPT CIRCUIT
TIME REFERENCE BUFFER
DEMO SIGNAL CIRCUIT
TRIGGER ARMING

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V AGND	14 7	U2,8,16,59
-5.2V AGND	8 16	U3
+5B +3.3B BGND -3.25B -5.2V -8B	31 4,6 1,4,7,10,13,21,27,32,43 33 44 34,48	U4
+5V AGND	16 8	U5
-5.2V AGND	8 1,16	U7,17,23
+5V AGND	8 4	U9
+15V -15V	8 4	U22
+5V +3.3A AGND -2V NC	55 2 10,15,33,45,48,56 1,3 2,11,12,13,32,49,50	U24
+5V AGND	2 6	U38
+5V AGND	20 10	U55

RESISTOR PACK DESCRIPTIONS

▲▼ XX – XX SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP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RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
5	330X9	1	-5.2V

PARTS ON THIS SCHEMATIC

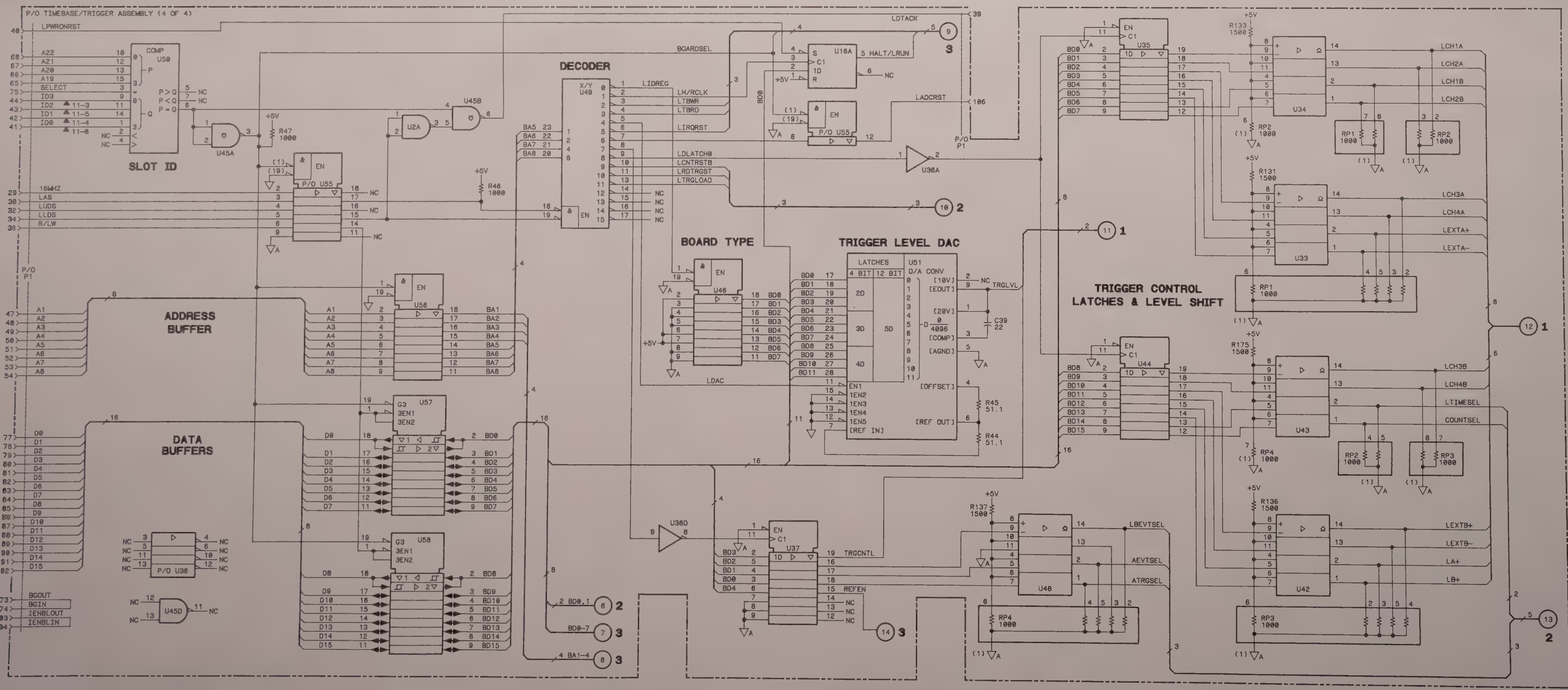
C45,48–51,138–142,144,145,147,154
CR5,6,16–21
J11–13
L5,13–17
P/O P1
Q5–11
R40,57–68,74–76,78–100,128,129,150,151,156,162,190,195,198–200,205,206,211,212,215–219,221–226,228,229,231–235
P/O RP5
TP3
U4,5,8–10,22–25,38,40,59
P/O U2,3,7,16,17,55

54112/SC02_03/4/9-87

3

400 MHZ Oscillator, Timebase, Fine Interpolator, Multiplexer/Synchronizer

54112-66502

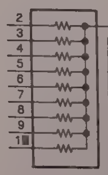

P/O TIMEBASE/TRIGGER ASSEMBLY (4 OF 4)
SLOT ID
DECODER
ADDRESS BUFFER
DATA BUFFERS
BOARD TYPE
TRIGGER LEVEL DAC
TRIGGER CONTROL LATCHES & LEVEL SHIFT

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V AGND	14 7	U2,16,36
+5V -2V	3 12	U33,34,42,43,48
+5V AGND	20 10	U35,37,44,46,56–58
+5V AGND	24 12	U49
+5V AGND	16 8	U50
+5V AGND -15V	8 16 10	U51

RESISTOR PACK DESCRIPTIONS:

▲▼ XX – XX SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP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RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
11	1000X5	1	+5V

PARTS ON THIS SCHEMATIC

C39
P/O P1
R44–47,131,133,136,137,175
RP1–4,11
U33–37,42–44,46,48–51,56–58
P/O U2,16,45,55

54112/SC02_04/4/9-87

4

System Bus Interface, Triggering Control

54112-66502

Component-level Information Packet

for HP 54111D

Microprocessor

54111-66519
54111-66526

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

54111-66519 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6623	5	2	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C2	0160-6623	5		CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C3	0180-0309	4	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C4	0180-0309	4		CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C5	0180-0229	7	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C6	0160-4574	1	6	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C7	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C8	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C9	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C10	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C11	0160-4574	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C12	0160-6500	7	45	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

54111-66519 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C55	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	2	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
Q2	1854-0215	1		TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
R1	0757-0419	0	1	RESISTOR 681 +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-681R-F
R2	0757-0438	3	1	RESISTOR 5.11K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-5111-F
R3	0757-0280	3	4	RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R4	0757-0442	9	2	RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R5	0757-0442	9		RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R6	0757-0437	2	1	RESISTOR 4.75K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-4751-F
R7	0757-0280	3		RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R8	0757-0280	3		RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R9	0757-0280	3		RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8		NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	5	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	21	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP11	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP12-14				NOT ASSIGNED		
TP15	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5		CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

54111-66519 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U1	1820-1730	6	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
U2	1820-3347	5	1	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	1	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U5	1820-2795	5	8	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U6	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U7	54111-80033	0	1	IC ROM	28480	54111-80033
U8	54111-80035	2	1	IC ROM	28480	54111-80035
U9-13				NOT ASSIGNED		
U14	1818-4228	8	6	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U15	1818-4228	8		IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U16	1818-4228	8		IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U17	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U18	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U19	1820-3220	3	1	IC DCDR TTL F BIN 2-TO-4-LINE DUAL	04713	MC74F139N
U20	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
U21	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U22	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U23	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U24	54111-80034	1	1	IC ROM	28480	54111-80034
U25	54111-80036	3	1	IC ROM	28480	54111-80036
U26-29				NOT ASSIGNED		
U30	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U31	1818-4228	8		IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U32	1818-4228	8		IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U33	1818-4228	8		IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U34	1820-1851	2	1	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	2	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	1	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	2	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U41	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	1	IC DRVR TTL LS LINE OCTL	01295	SN74LS240N
U44	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U45	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U46	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U47	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7		IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U51	1820-2688	5	1	IC GATE TTL F AND TPL 3-INP	04713	MC74F11N
U52	1820-4721	1	1	IC GATE CMOS/74HC OR QUAD 2-INP	18324	74HCT32N
XU1-6				NOT ASSIGNED		
XU7	1200-1351	3	4	SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU8	1200-1351	3		SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU9-23				NOT ASSIGNED		
XU24	1200-1351	3		SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU25	1200-1351	3		SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351

CHANGE 1 for 54111-66526, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54111D. The Microprocessor assembly part number was changed from 54111-66519 to 54111-66526.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U7 to	54111-80037	4	IC ROM	28480	54111-80037
	U8 to	54111-80039	6	IC ROM	28480	54111-80039
	U24 to	54111-80038	5	IC ROM	28480	54111-80038
	U25 to	54111-80040	9	IC ROM	28480	54111-80040

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	51	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6623	5	2	CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6623
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-4575	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C55	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C57	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4575	1		CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0180-3845	9	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C60	0180-0309	4		CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C61	0180-3848	2	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C62				NOT ASSIGNED		
C63	0160-6623	5		CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6623
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	1	TRANSISTOR NPN SI TO-92 PD=350MW	04713	2N3904
R1-32				NOT ASSIGNED		
R33	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R34	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R35	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R36	0757-0442	9		RESISTOR 10k +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R37	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R38	0698-7212	9	2	RESISTOR 100 1% 0.05W TF TC=0+-100	28480	0698-7212
R39	0757-0419	0	2	RESISTOR 681 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-6810-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8		NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0		NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	6	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP12	1810-0350	3		NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	18	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
TP11	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP12	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP13	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP14	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP15	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5		CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
U1	1820-1730	6	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
U2	1820-3347	5	1	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	1	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U5	1820-2795	5	7	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U6	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U7	54112-80001	3	1	IC ROM	28480	54112-80001
U8	54112-80003	5	1	IC ROM	28480	54112-80003
U9	54112-80005	7	1	IC ROM	28480	54112-80005
U10	54112-80007	9	1	IC ROM	28480	54112-80007
U11	54112-80009	1	1	IC ROM	28480	54112-80009
U12	54112-80011	5	1	IC ROM	28480	54112-80011
U13	54112-80013	7	1	IC ROM	28480	54112-80013
U15	1818-3183	2	4	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U16	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U17	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U18	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U19	1820-1216	3	1	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U20	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
U21	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U22	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U23	1820-2795	5		IC DRVR TTL F.LINE DRVR OCTL	04713	MC74F244N
U24	54112-80002	4	1	IC ROM	28480	54112-80002
U25	54112-80004	6	1	IC ROM	28480	54112-80004
U26	54112-80006	8	1	IC ROM	28480	54112-80006
U27	54112-80008	0	1	IC ROM	28480	54112-80008
U28	54112-80010	4	1	IC ROM	28480	54112-80010
U29	54112-80012	6	1	IC ROM	28480	54112-80012
U30	54112-80014	8	1	IC ROM	28480	54112-80014
U32	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U33	1818-3183	2		IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	S0545	UPD4364C-15L
U34	1820-1851	2	1	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	2	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	1	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	2	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U41	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	1	IC DRVR TTL LS LINE OCTL	01295	SN74LS240N
U44	1820-2024	3	1	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U45	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N

54111-66511 Microprocessor Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U46	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U47	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7		IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U51	1820-0629	0	1	IC FF TTL S J-K NEG-EDGE-TRIG	01295	SN74S112N
U52	1820-0684	7	1	IC INV TTL S HEX 1-INP	01295	SN74S05N
XU1-6				NOT ASSIGNED		
XU7	1200-0861	8	16	SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU8	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU9	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU10	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU11	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU12	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU13	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU14	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU15-23				NOT ASSIGNED		
XU24	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU25	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU26	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU27	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU28	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU29	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU30	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU31	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861

CHANGE 1 for 54111-66521, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66511 to 54111-66521. The 54111-66521 was superceded by the 54111-66524.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U7 to	54112-80015	9	IC ROM	28480	54112-80015
	U8 to	54112-80017	1	IC ROM	28480	54112-80017
	U9 to	54112-80019	3	IC ROM	28480	54112-80019
	U10 to	54112-80021	7	IC ROM	28480	54112-80021
	U11 to	54112-80023	9	IC ROM	28480	54112-80023
	U12 to	54112-80025	1	IC ROM	28480	54112-80025
	U13 to	54112-80027	3	IC ROM	28480	54112-80027
	U24 to	54112-80016	0	IC ROM	28480	54112-80016
	U25 to	54112-80018	2	IC ROM	28480	54112-80018
	U26 to	54112-80020	6	IC ROM	28480	54112-80020
	U27 to	54112-80022	8	IC ROM	28480	54112-80022
	U28 to	54112-80024	0	IC ROM	28480	54112-80024
	U29 to	54112-80026	2	IC ROM	28480	54112-80026
	U30 to	54112-80028	4	IC ROM	28480	54112-80028

CHANGE 1 for 54111-66524, Microprocessor

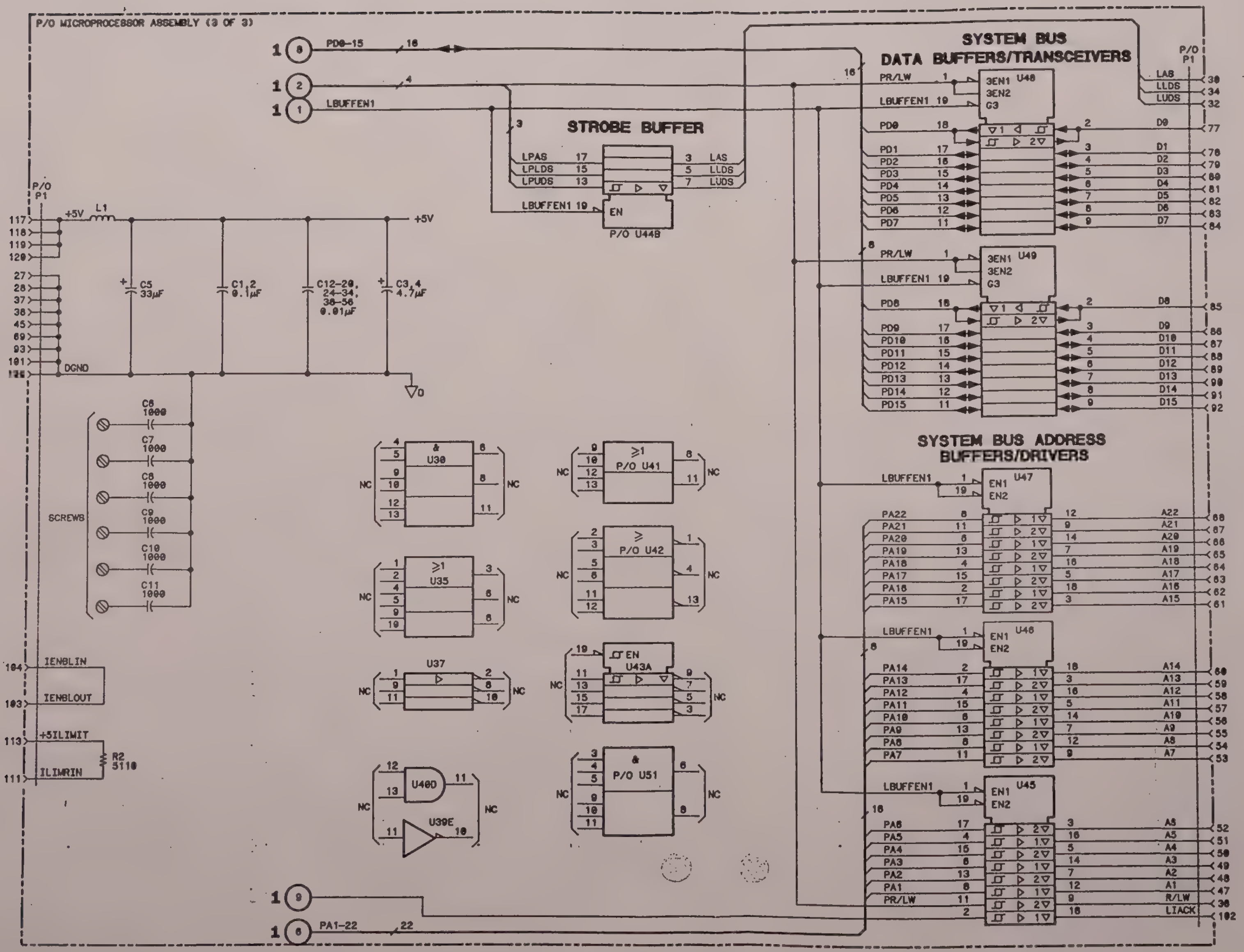
Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66521 to 54111-66524.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U7 to	54112-80043	3	IC ROM	28480	54112-80043
	U8 to	54112-80045	5	IC ROM	28480	54112-80045
	U9 to	54112-80047	7	IC ROM	28480	54112-80047
	U10 to	54112-80049	9	IC ROM	28480	54112-80049
	U11 to	54112-80051	3	IC ROM	28480	54112-80051
	U12 to	54112-80053	5	IC ROM	28480	54112-80053
	U13 to	54112-80055	7	IC ROM	28480	54112-80055
	U24 to	54112-80044	4	IC ROM	28480	54112-80044
	U25 to	54112-80046	6	IC ROM	28480	54112-80046
	U26 to	54112-80048	8	IC ROM	28480	54112-80048
	U27 to	54112-80050	2	IC ROM	28480	54112-80050
	U28 to	54112-80052	4	IC ROM	28480	54112-80052
	U29 to	54112-80054	6	IC ROM	28480	54112-80054
	U30 to	54112-80056	8	IC ROM	28480	54112-80056

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V DGND	14 7	U30,35,37, 39-42,51
+5V DGND	20 10	U44-49


P/O MICROPROCESSOR ASSEMBLY (3 OF 3)
SYSTEM BUS
DATA BUFFERS/TRANSCEIVERS
STROBE BUFFER
SYSTEM BUS ADDRESS
BUFFERS/DRIVERS
PD0-15
16
LBUFFEN1
LPAS
LPLDS
LPUDS
LAS
LLDS
LUDS
EN
P/O U44B
PR/LW
3EN1
3EN2
G3
U48
U49
U47
U46
U45
EN1
EN2
PD0
PD1
PD2
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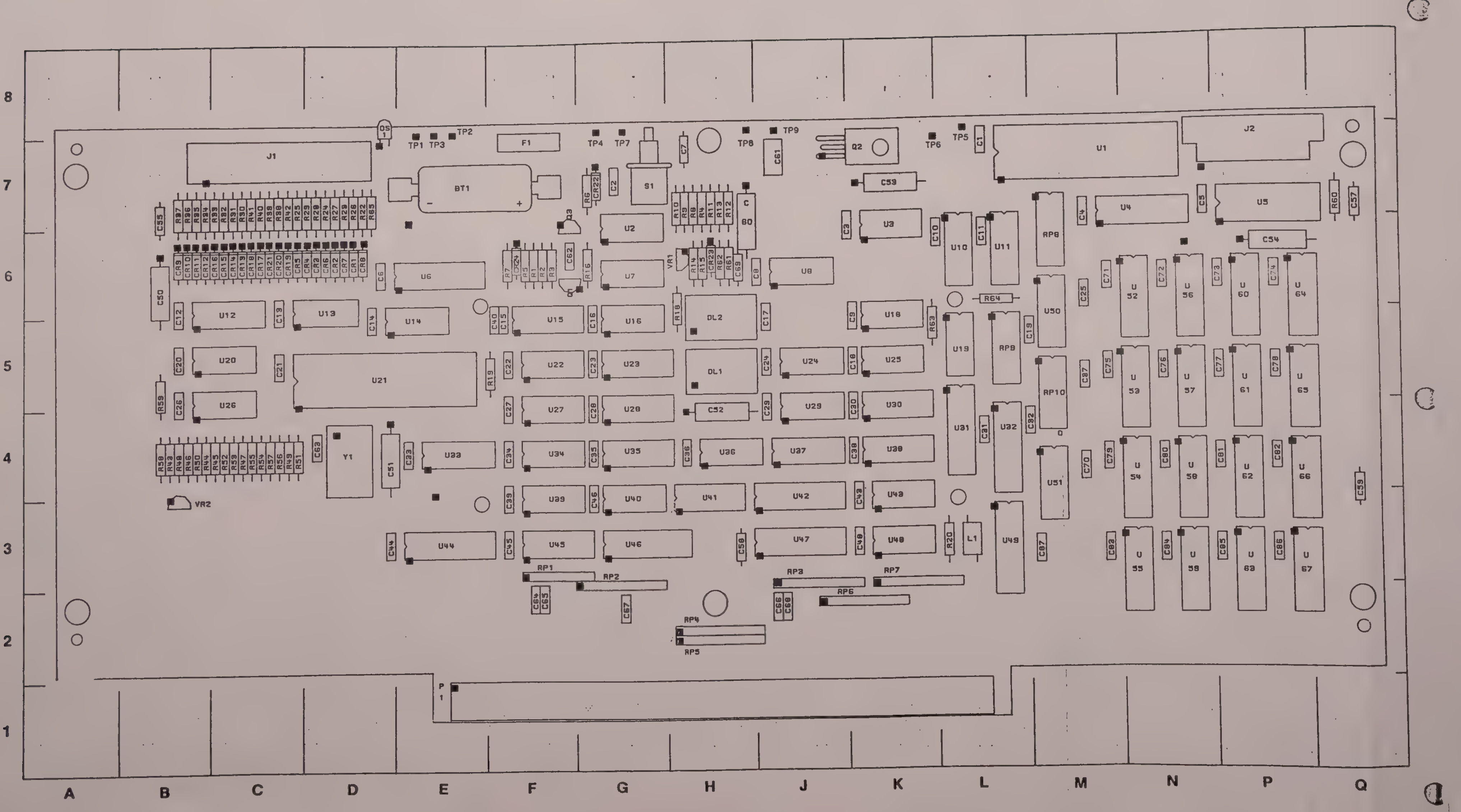
A1
R/LW
LIACK
P/O
P1
+5V
L1
C5
33µF
C1,2
0.1µF
C12-20,
24-34,
38-56
0.01µF
C3,4
4.7µF
DGND
C6
1000
C7
1000
C8
1000
C9
1000
C10
1000
C11
1000
SCREWS
IENBLIN
IENBLOUT
+5ILIMIT
ILIMRIN
R2
5110
U30
U35
U37
U40D
U39E
P/O U41
P/O U42
U43A
P/O U51
NC
PA1-22
22

PARTS ON THIS SCHEMATIC

C1-20,24-34,38-56
L1
P/O P1
R2
U45-49
P/O U30,35,37,39-44,51

54111/SC10_03/3/10-88

Data and Address Buffers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TP1
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TP3
TP4
TP5
TP6
TP7
TP8
TP9
Q2
Q3
S1
U1
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DL1
DL2
RP1
RP2
RP3
RP4
RP5
RP6
RP7
RP8
RP9
RP10
R64
L1
Y1
VR1
VR2
C54
C52
C53
P1

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
BT1	E-7	C51	D-4	CR12	B-6	R18	H-6	RP1	F-3	U28	G-4
		C52	H-4	CR13	C-6	R19	F-5	RP2	G-3	U29	J-4
C1	L-7	C53	K-7	CR14	C-6	R20	L-3	RP3	J-3	U30	K-4
C2	G-7	C54	P-6	CR15	C-6	R22	D-7	RP4	H-2	U31	L-4
C3	K-6	C55	B-7	CR16	C-6	R23	D-7	RP5	H-2	U32	L-4
C4	M-7	C57	Q-7	CR17	C-6	R24	D-7	RP6	J-2	U33	E-4
C5	N-7	C58	H-3	CR18	C-6	R25	C-7	RP7	K-3	U34	F-4
C6	D-6	C59	Q-4	CR19	C-6	R26	D-7	RP8	M-6	U35	G-4
C7	H-7	C60	H-6	CR20	C-6	R27	D-7	RP9	L-5	U36	H-4
C8	J-6	C61	J-7	CR21	C-6	R28	D-7	RP10	M-5	U37	J-4
C9	K-5	C62	F-6	CR22	G-7	R29	D-7			U38	K-4
C10	L-6	C63	D-4	CR23	H-6	R30	C-7	S1	G-7	U39	F-3
C11	L-6	C64	F-2	CR24	F-6	R31	C-7			U40	G-3
C12	B-6	C65	F-2			R32	C-7	TP1	E-7	U41	H-3
C13	C-6	C66	J-2	DL1	H-5	R33	C-7	TP2	E-7	U42	J-3
C14	D-5	C67	G-2	DL2	H-5	R34	B-7	TP3	E-7	U43	K-3
C15	F-5	C68	J-2			R35	B-7	TP4	G-7	U44	E-3
C16	G-5	C69	H-6	DS1	D-7	R36	B-7	TP5	L-6	U45	F-3
C17	J-5	C70	M-4			R37	B-7	TP6	L-6	U46	G-3
C18	K-5	C71	M-6	F1	F-7	R38	C-7	TP7	G-7	U47	J-3
C19	M-5	C72	N-6			R39	C-7	TP8	H-7	U48	K-3
C20	B-5	C73	P-6	J1	C-7	R40	C-7	TP9	J-7	U49	L-3
C21	C-5	C74	P-6	J2	P-7	R41	C-7			U50	M-5
C22	F-5	C75	M-5			R42	C-7	U1	M-7	U51	M-4
C23	G-5	C76	N-5	L1	L-3	R43	B-4	U2	G-6	U52	N-6
C24	J-5	C77	P-5			R44	B-4	U3	K-6	U53	N-5
C25	M-6	C78	P-5	P1	E-1	R45	C-4	U4	N-7	U54	N-4
C26	B-5	C79	M-4			R46	B-4	U5	P-7	U55	N-3
C27	F-4	C80	N-4	Q1	F-6	R47	C-4	U6	E-6	U56	N-6
C28	G-4	C81	P-4	Q2	K-7	R48	B-4	U7	G-6	U57	N-5
C29	J-4	C82	P-4	Q3	F-7	R49	C-4	U8	J-6	U58	N-4
C30	K-4	C83	M-3			R50	B-4	U10	L-6	U59	N-3
C31	L-4	C84	N-3	R1	F-6	R51	C-4	U11	L-6	U60	P-6
C32	M-4	C85	P-3	R2	F-6	R52	C-4	U12	C-6	U61	P-5
C33	E-4	C86	P-3	R3	F-6	R53	C-4	U13	D-6	U62	P-4
C34	F-4	C87	M-3	R4	H-7	R54	C-4	U14	E-5	U63	P-3
C35	G-4			R5	F-6	R55	C-4	U15	F-5	U64	P-6
C36	H-4	CR1	D-6	R6	G-7	R56	C-4	U16	G-5	U65	P-5
C37	M-5	CR2	D-6	R7	F-6	R57	C-4	U18	K-5	U66	P-4
C38	K-4	CR3	D-6	R8	H-7	R58	B-4	U19	L-5	U67	P-3
C39	F-3	CR4	D-6	R9	H-7	R59	B-5	U20	C-5		
C40	F-5	CR5	C-6	R10	H-7	R60	Q-7	U21	D-5	VR1	H-6
C43	K-3	CR6	D-6	R11	H-7	R61	H-6	U22	F-5	VR2	B-3
C44	D-3	CR7	D-6	R12	H-7	R62	H-6	U23	G-5		
C45	F-3	CR8	D-6	R13	H-7	R63	K-5	U24	J-5	Y1	D-4
C46	G-3	CR9	B-6	R14	H-6	R64	L-6	U25	K-5		
C48	K-3	CR10	B-6	R15	H-6	R65	D-7	U26	C-5		
C50	B-6	CR11	B-6	R16	G-6			U27	F-4		

Component-level Information Packet

for HP 54111D, 54112D, 54120A/B

Color Display Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	79	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0180-0229	7	5	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C42	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C55	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C57	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C58	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C59	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C60	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C61	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C62	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C65	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C70	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C73	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C75	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C78	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C79	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
DS1	1990-0486	6	1	LED-LAMP LUM-INT=2MCD IF=25MA-MAX BVR=5V	28480	HLMP-1301
E1	1252-1157	6	2	CONNECTOR-PIN ASSEMBLY	28480	1252-1157
E2	1252-1157	6		CONNECTOR-PIN ASSEMBLY	28480	1252-1157
H1	0515-0664	5	2	SCREW MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1	1252-1072	4	1	CONN-POST TYPE 0.150-PIN-SPCG 60-CONT	28480	1252-1072
J2	1251-8158	9	1	CONN-POST TYPE 0.100-PIN-SPCG 40-CONT	28480	1251-8158
L1	5081-7682	5	1	CHOKE RF	28480	5081-7682
MP1	54110-40503	4	1	GUIDE-CONNECTOR	28480	54110-40503
R1	0757-0410	1	1	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
R2	0757-0280	3	1	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
RP1	1810-0279	5	1	NETWORK-RES 10-SIP 4.7K OHM X 9	28480	1810-0279
U1	1818-3214	0	24	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U2	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U3	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U4	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U5	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U6	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U7	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U8	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U9	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U10	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U11	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U12	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U13	1813-0285	9	1	CLOCK-OSCILLATOR-XTAL 20.0000-MHZ 0.01%	04713	RASCO PLUS-20MHZ
U14	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U15	1820-1112	8	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U16	1820-3348	6	1	IC CNTR TTL F BIN SYNCHRO POS-EDGE-TRIG	07263	74F163APC
U17	1820-2686	3	2	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U18	1820-2691	0	6	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U19	1820-2691	0		IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U20	1820-1457	4	2	IC SHF-RGTR TTL S D-TYPE PRL-IN PRL-OUT	01295	SN74S299N
U21	1820-1457	4		IC SHF-RGTR TTL S D-TYPE PRL-IN PRL-OUT	01295	SN74S299N
U22	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U23	1820-2506	6	3	IC INV TTL F HEX	04713	MC74F04N
U24	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U25	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U26	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U27	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U28	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U29	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U30	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U31	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U32	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U33	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U34	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U35	1818-3214	0		DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U36	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U37	1820-2691	0		IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U38	1820-1207	2	1	IC GATE TTL LS NAND 8-INP	01295	SN74LS30N
U39	1820-1208	3	8	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U40	1820-2690	9	6	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U41	1820-1112	8		IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U42	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U43	1820-2691	0		IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U44	1820-2692	1	1	IC GATE TTL F EXCL-OR QUAD 2-INP	07263	74F86PC
U45	1810-0828	0	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	28480	1810-0828
U46	1820-2826	3	1	IC-INTERFACE DRVR BCD UP/DOWN MEMORY	34335	AM2966PC (SELECTED)
U47	1820-2654	5	6	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U48	1820-2654	5		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U49	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U50	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U51	1820-4177	1	1	IC-INTERFACE MISC-DGTL CMOS	18324	SCN2672BC4N40
U52	1820-1997	7	19	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U53	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U54	1820-2691	0		IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U55	1820-1922	8	1	IC SHF-RGTR TTL LS PRL-IN SERIAL-OUT	01295	SN74LS166AN
U56	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U57	1820-5177	3	12	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U58	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U59	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U60	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U61	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U62	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U63	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U64	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U65	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U66	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U67	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U68	1820-5177	3		IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U69	1820-2654	5		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U70	1820-2654	5		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U71	1820-2654	5		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U72	1820-1216	3	2	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U73	1820-1196	8	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS174N
U74	1818-1611	7	2	IC CMOS 16384 (16K) STAT RAM 150-NS 3-S	34335	AM9128-15PC
U75	1818-1611	7		IC CMOS 16384 (16K) STAT RAM 150-NS 3-S	34335	AM9128-15PC
U76	54110-80018	0	1	IC CHARACTER ROM	28480	54110-80018
U77	1820-2024	3	18	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U78	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U79	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U80	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U81	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U82	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U83	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U84	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U85	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U86	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U87	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U88	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U89	1820-2654	5		IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U90	1820-1989	7	2	IC CNTR TTL LS BIN DUAL 4-BIT	07263	74LS393PC
U91	1820-1989	7		IC CNTR TTL LS BIN DUAL 4-BIT	07263	74LS393PC
U92	1816-0724	7	4	IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U93	1816-0724	7		IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U94	1820-1195	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U95	1820-0697	2	1	IC DRVR TTL S NAND LINE DUAL 4-INP	01295	SN74S140N
U96	1820-2684	1	2	IC GATE TTL F NAND QUAD 2-INP	04713	MC74F00N
U97	1820-2701	3	4	IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U98	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U99	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U100	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U101	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U102	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U103	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U104	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U105	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U106	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U107	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U108	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U109	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U110	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U111	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U112	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U113	1820-2701	3		IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U114	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U115	1820-1072	9	2	IC DCDR TTL S 2-TO-4-LINE DUAL 2-INP	01295	SN74S139N
U116	1816-0724	7		IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U117	1816-0724	7		IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U118	1820-0690	5	1	IC BFR TTL S NAND DUAL 4-INP	01295	SN74S40N
U119	1820-2795	5	2	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U120	1820-2701	3		IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U121	1820-2506	6		IC INV TTL F HEX	04713	MC74F04N
U122	1810-0829	1	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	28480	1810-0829
U123	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U124	1820-1997	7		IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U125	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U126	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U127				NOT ASSIGNED		
U128	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U129				NOT ASSIGNED		
U130	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U131	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U132	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U133	1820-1208	3		IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U134	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U135	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U136	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U137	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U138	1820-2024	3		IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U139	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U140	1820-2075	4		IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U141	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U142	1820-2701	3		IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U143	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U144	1820-2684	1		IC GATE TTL F NAND QUAD 2-INP	04713	MC74F00N
U145	1826-1536	2	1	D/A 4-BIT 24-DIP-C CMOS	33967	RGBDAC3404
U146	1820-2686	3		IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U147	1820-1072	9		IC DCDR TTL S 2-TO-4-LINE DUAL 2-INP	01295	SN74S139N
U148	1820-1201	6	3	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U149	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U150	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U151	1820-1201	6		IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U152	1820-1201	6		IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U153	1820-2690	9		IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U154	1820-1216	3		IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U155	1820-2691	0		IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U156	1820-1448	3	1	IC GATE TTL S AND QUAD 2-INP	01295	SN74S09N
UR1-126				NOT ASSIGNED		
UR127	1810-0533	4	2	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
UR128				NOT ASSIGNED		
UR129	1810-0533	4		NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533

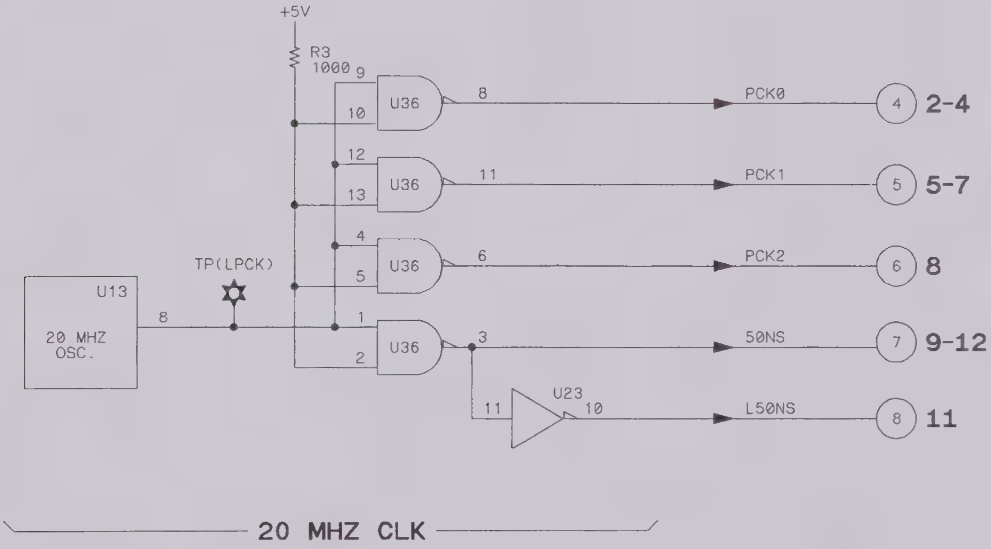
CHANGE 1 for 54110-66514, Color Display Assembly

The 54110-66512 Color Display assembly was replaced by the 54110-66514. There are changes for three schematics.

Schematic 1

On schematic 1, the change involves the clock distribution and supply filter capacitors. A partial schematic is provided below.

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U36 to	1820-2684	1	IC GATE TTL F NAND QUAD 2-INP	07263	74F00PC
C30,41 42,57,72	0180-3848	2	CAP-FXD 33UF	28480	0180-3848


+5V
R3
1000
9
10
12
13
4
5
1
2
U36
U36
U36
U36
8
11
6
3
PCK0
PCK1
PCK2
50NS
L50NS
4
5
6
7
8
2-4
5-7
8
9-12
11
TP(LPCK)
U13
20 MHZ
OSC.
8
U23
11
10
20 MHZ CLK

54110/SC12_01A/9-88

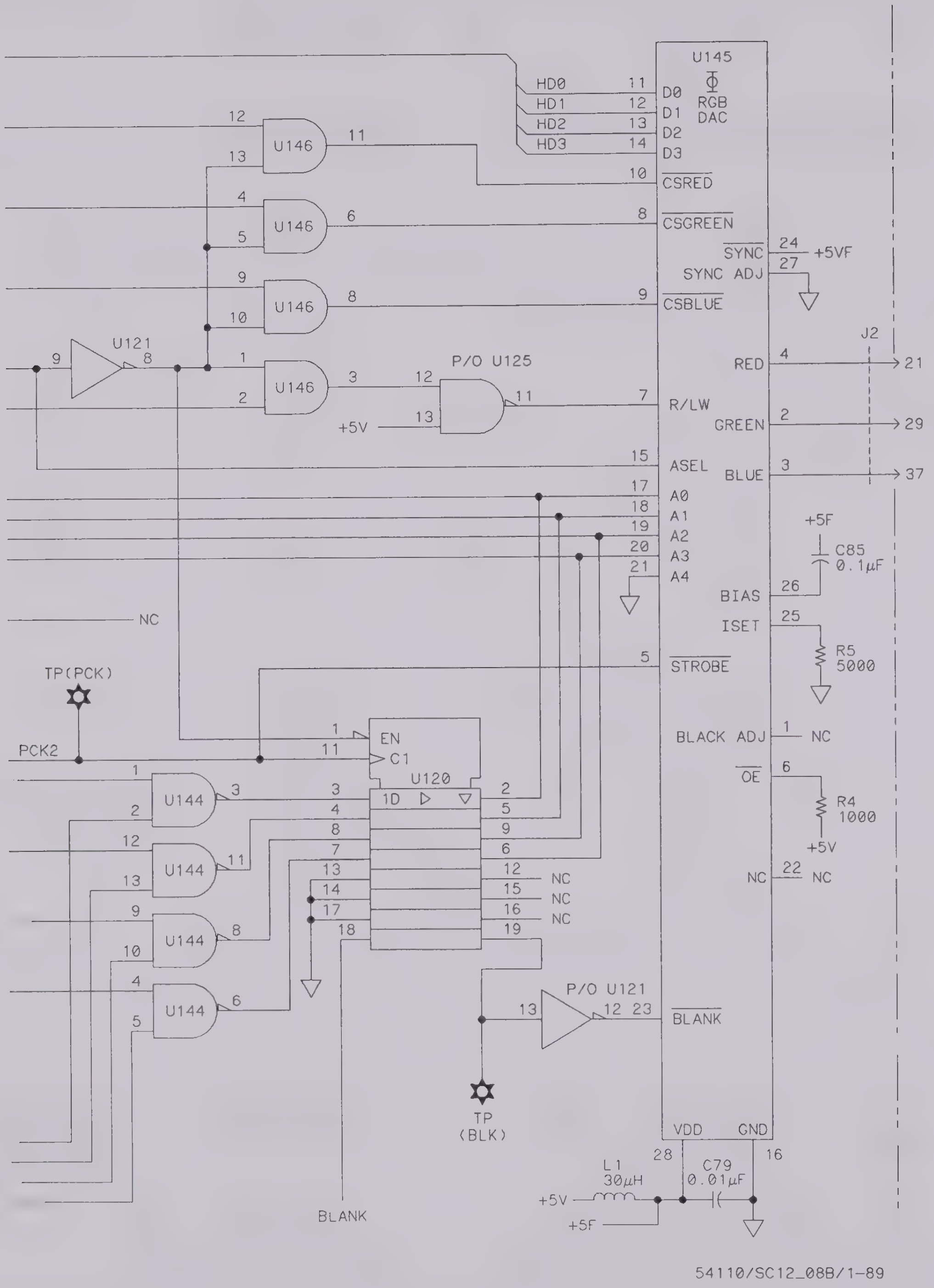
Schematic 8

For schematic 8, the change involves the RGB DAC and associated circuitry. A partial schematic is provided on the next page.

DELETE: U122

	HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:					
U145 to	1826-1928	6	IC DAC RGB 3405SW	28480	1826-1928
ADD:					
C85	0160-6623	5	CAP-FXD 0.1UF+-20% 50VDC	28480	0160-6623
R4	0757-0280	3	RESISTOR 1K +-1% 0.125W TF	2M627	CT4-1/8-T0-1001-F
R5	0698-4002	9	RESISTOR 5K +-1% 0.125W TF	2M627	CT4-1/8-T0-5001-F

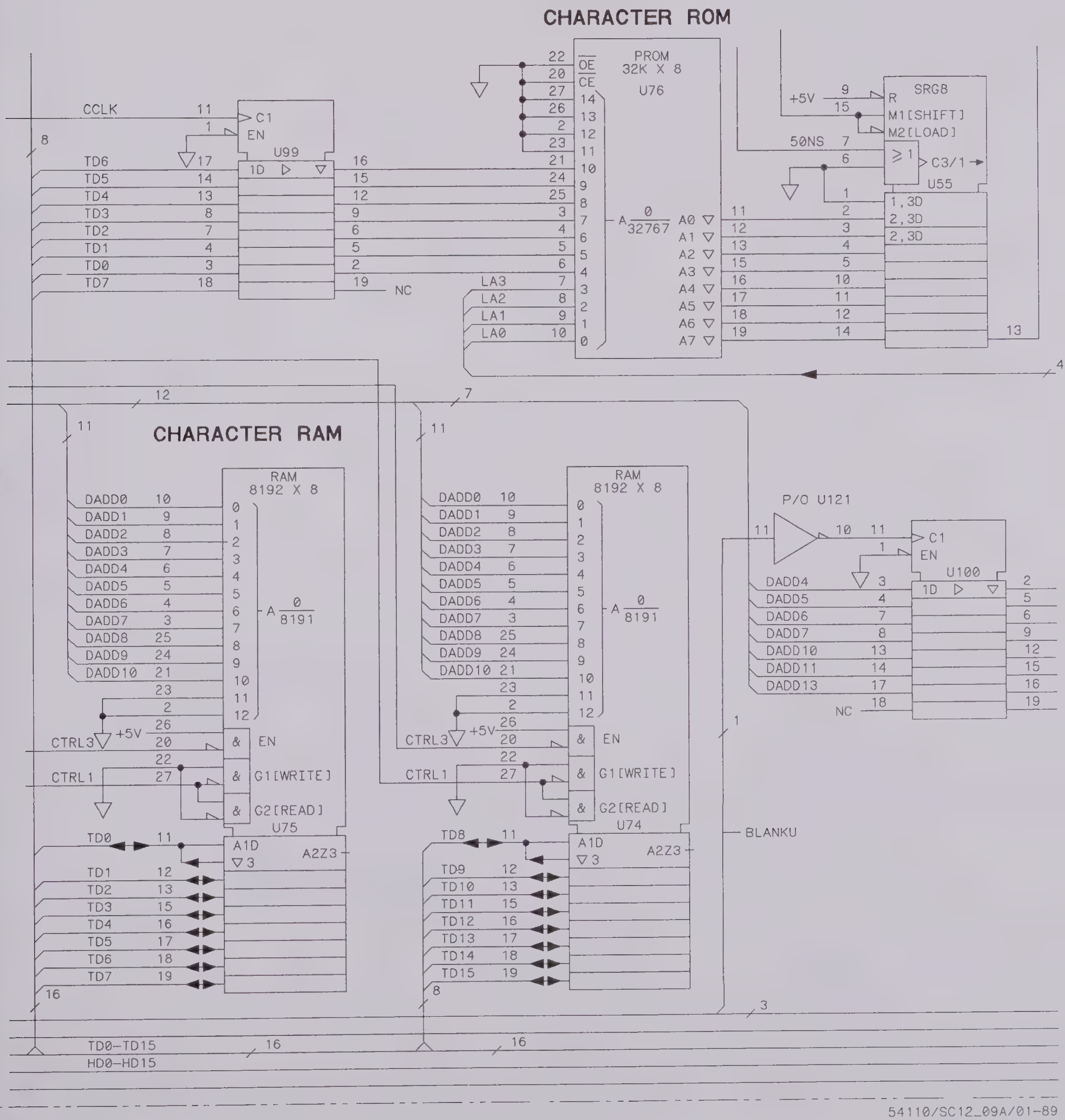
Changes to schematic 8 for 54110-66514.

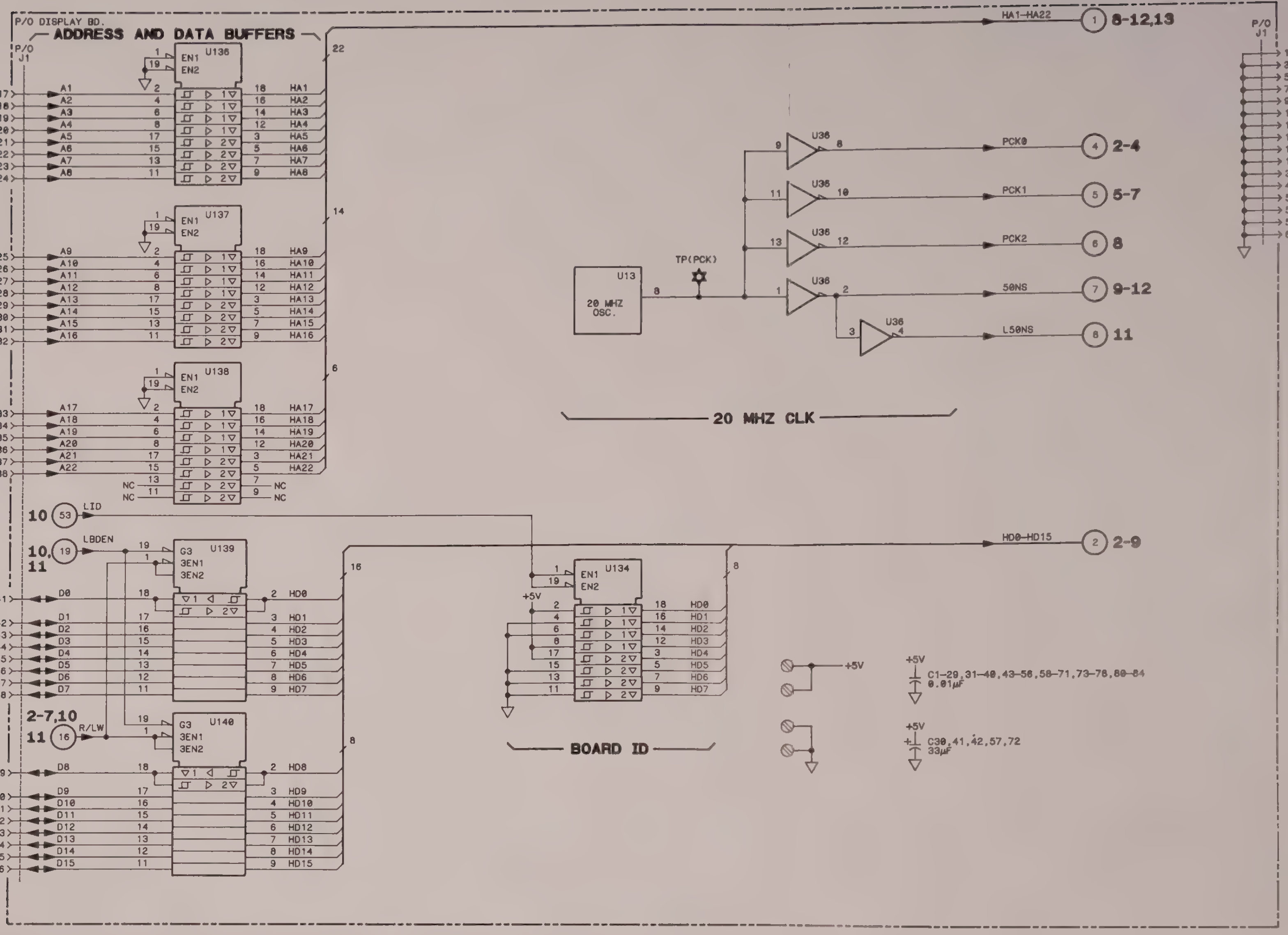

U145
RGB DAC
HD0
HD1
HD2
HD3
D0
D1
D2
D3
CSRED
CSGREEN
CSBLUE
SYNC
SYNC ADJ
+5VF
RED
GREEN
BLUE
J2
21
29
37
R/LW
ASEL
A0
A1
A2
A3
A4
BIAS
ISET
STROBE
BLACK ADJ
OE
NC
BLANK
VDD
GND
+5F
C85
0.1µF
R5
5000
R4
1000
+5V
U146
U121
P/O U125
U144
U120
EN
C1
1D
TP(PCK)
PCK2
P/O U121
TP
(BLK)
L1
30µH
C79
0.01µF
54110/SC12_08B/1-89

Schematic 9

For schematic 9, the change involves the Character ROM and RAM. A partial schematic is provided below.

		HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
CHANGE:						
	U74 to	1818-3183	2	IC CMOS 8K STATIC RAM	28480	1818-3183
	U75 to	1818-3183	2	IC CMOS 8K STATIC RAM	28480	1818-3183
	U76 to	54110-80027	1	IC CHARACTER ROM	28480	54110-80027


CHARACTER ROM
PROM
32K X 8
U76
OE
CE
A 0/32767
CCLK
C1
EN
U99
1D
TD0
TD1
TD2
TD3
TD4
TD5
TD6
TD7
NC
LA0
LA1
LA2
LA3
+5V
50NS
SRG8
R
M1[SHIFT]
M2[LOAD]
≥1
C3/1
U55
1,3D
2,3D
CHARACTER RAM
RAM
8192 X 8
A 0/8191
DADD0
DADD1
DADD2
DADD3
DADD4
DADD5
DADD6
DADD7
DADD8
DADD9
DADD10
DADD11
DADD13
CTRL3
CTRL1
EN
G1[WRITE]
G2[READ]
U75
U74
A1D
A2Z3
TD8
TD9
TD10
TD11
TD12
TD13
TD14
TD15
P/O U121
U100
BLANKU
TD0–TD15
HD0–HD15
54110/SC12_09A/01-89


P/O DISPLAY BD.
ADDRESS AND DATA BUFFERS
P/O J1
U136
U137
U138
U139
U140
U134
U13
20 MHZ OSC.
U36
TP(PCK)
HA1–HA22
8-12,13
PCK0
2-4
PCK1
5-7
PCK2
8
50NS
9-12
L50NS
11
HD0–HD15
2-9
20 MHZ CLK
BOARD ID
LID
LBDEN
R/LW
C1–29,31–40,43–56,58–71,73–78,80–84
0.01µF
C30,41,42,57,72
33µF
+5V

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	14 7	U13,36
+5V GND	20 10	U134,136–140

PARTS ON THIS SCHEMATIC

C1–78,80–84
P/O J1
P/O U23
TP (PCLK)
U13,36,134,136–140

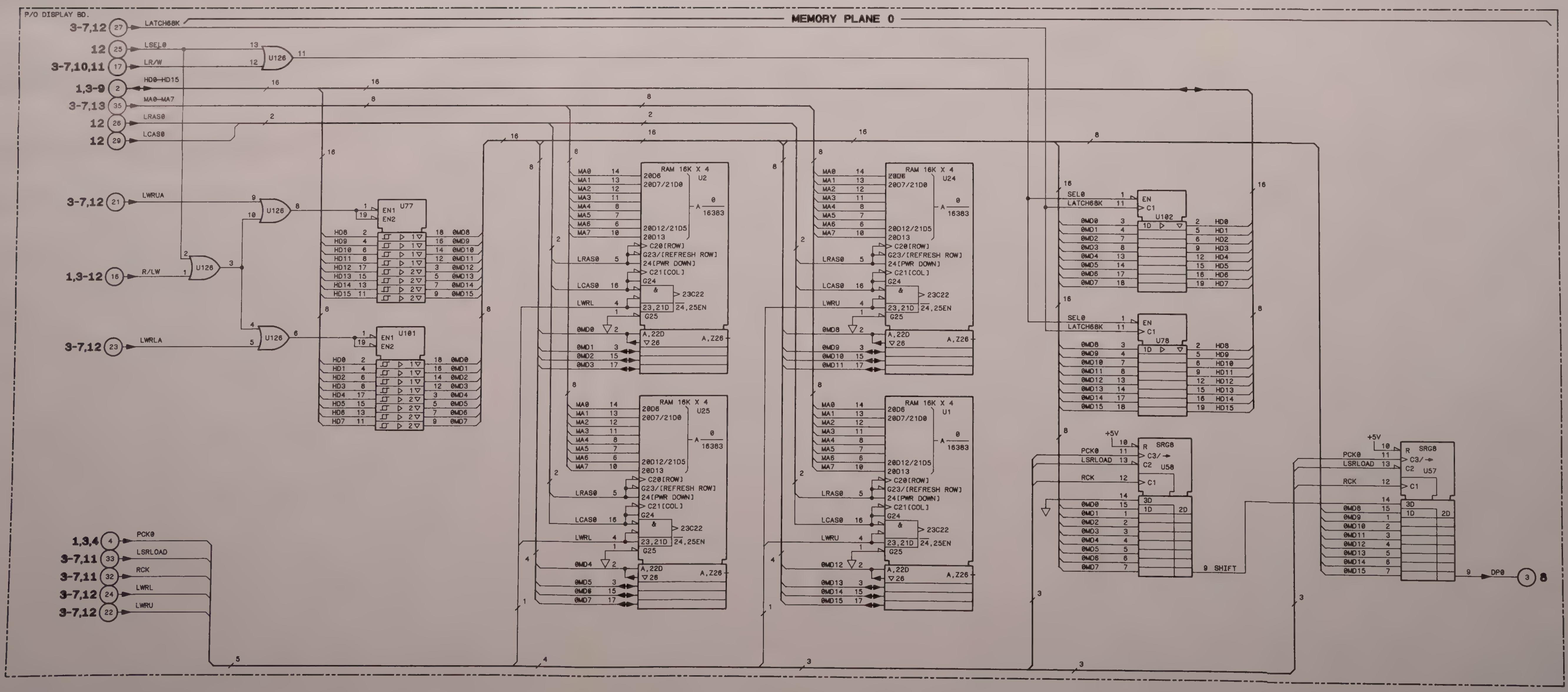
54110/SC12_01/1/10-

1

Address and Data Buffers, 20Mhz Oscillator

54110–66512

COLOR DISPLAY ASSEMBLY


P/O DISPLAY BD.
MEMORY PLANE 0
LATCH68K
LSEL0
LR/W
HD0–HD15
MA0–MA7
LRAS0
LCAS0
LWRUA
R/LW
LWRLA
U126
U77
U101
RAM 16K X 4
U2
U24
U25
U1
U102
U78
SRG8
U58
U57
PCK0
LSRLOAD
RCK
LWRL
LWRU
SHIFT
DP0
8

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	9 18	U1,2,24,25
+5V GND	16 8	U57,58
+5V GND	20 10	U77,78,101,102
+5V GND	14 7	U126

PARTS ON THIS SCHEMATIC

U1,2,24,25,57,58,77,78,101,102,126

54110/SC12_02/13/8-88

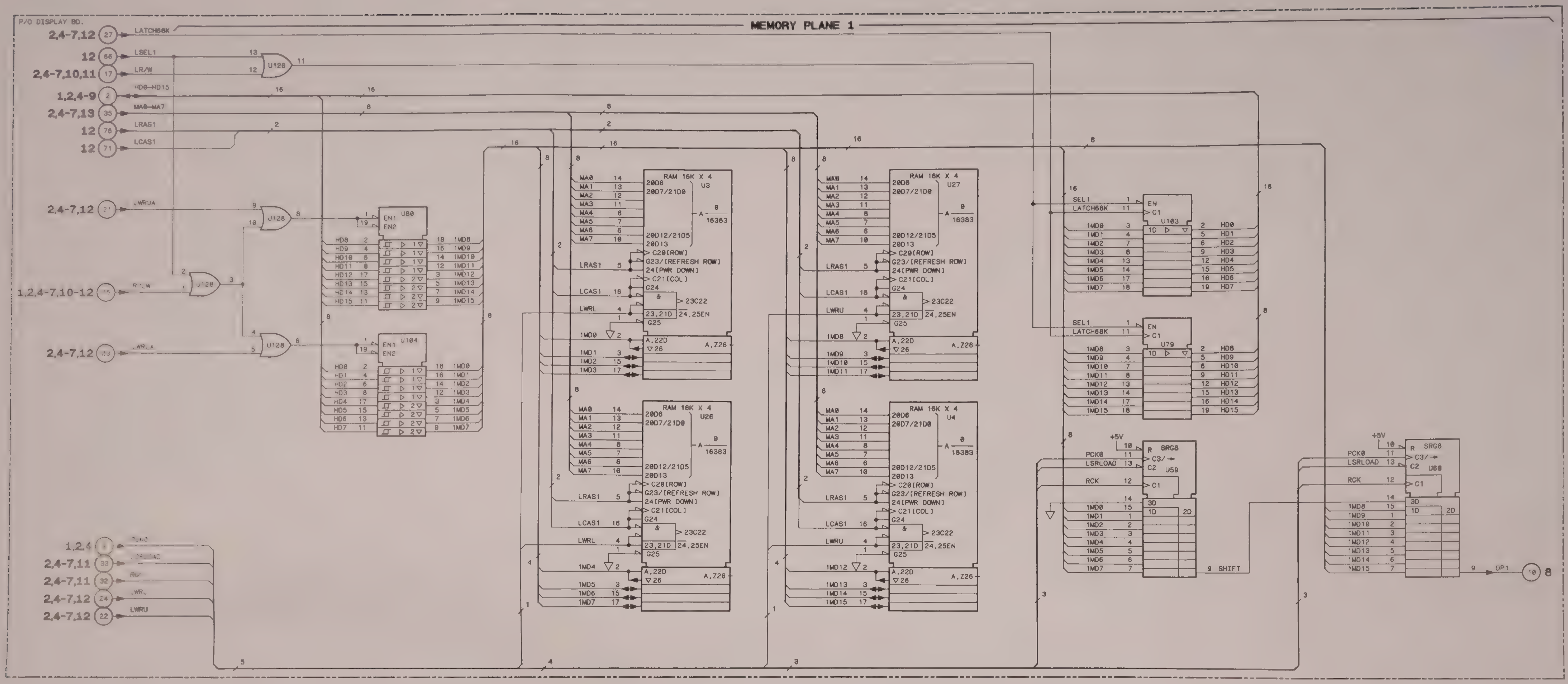
2

Memory Plane 0

54110–66512

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5V GND	9 18	U3,4,26,27
+5V GND	16 8	U59,60
+5V GND	20 10	U79,80,103,104
+5V GND	14 7	U128



P/O DISPLAY BD.
MEMORY PLANE 1
2,4-7,12 (27) LATCH68K
12 (68) LSEL1
2,4-7,10,11 (17) LR/W
1,2,4-9 (2) HD0-HD15
2,4-7,13 (35) MA0-MA7
12 (78) LRAS1
12 (71) LCAS1
2,4-7,12 (21) LWRUA
1,2,4-7,10-12 (16) R/LW
2,4-7,12 (23) LWRLA
1,2,4 (4) PCK0
2,4-7,11 (33) LSRLOAD
2,4-7,11 (32) RCK
2,4-7,12 (24) LWRL
2,4-7,12 (22) LWRU
U128
U80
U104
EN1
EN2
RAM 16K X 4
U3
U27
U26
U4
20D0
20D7/21D0
20D12/21D5
20D13
C20(ROW)
G23/[REFRESH ROW]
24[PWR DOWN]
C21[COL]
G24
23C22
24,25EN
G25
A,22D
A,Z26
16383
U103
U79
SEL1
LATCH68K
SRG8
U59
U60
+5V
PCK0
LSRLOAD
RCK
SHIFT
DP1
(10) 8

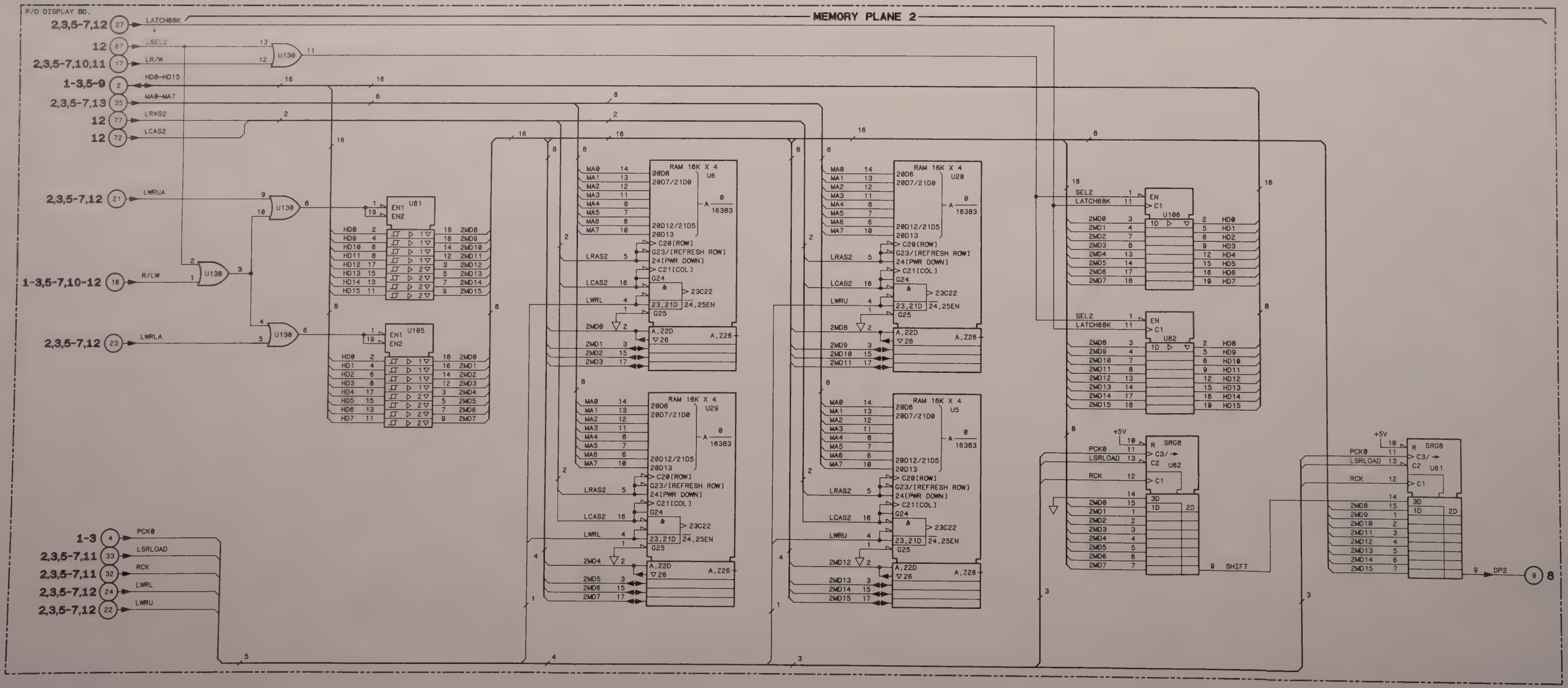
PARTS ON THIS SCHEMATIC

U3,4,26,27,59,60,79,80,103,104,128

54110/SC12_03/13/8-88

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	9 18	U5,6,28,29
+5V GND	16 8	U61,62
+5V GND	20 10	U81,82,105,106
+5V GND	14 7	U130

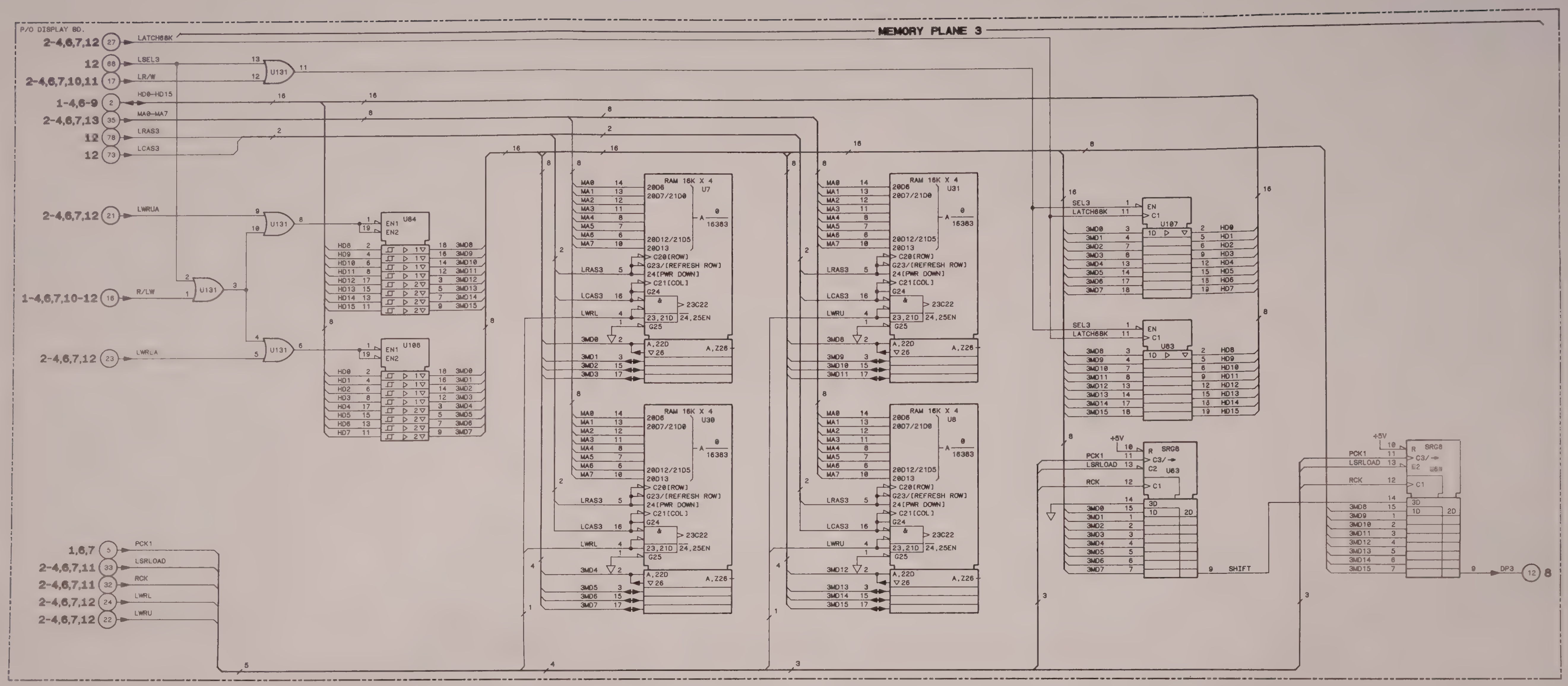


P/O DISPLAY BD.
MEMORY PLANE 2
2,3,5-7,12 (27) LATCH68K
12 (67) LSEL2
2,3,5-7,10,11 (17) LR/W
1-3,5-9 (2) HD0-HD15
2,3,5-7,13 (35) MA0-MA7
12 (77) LRAS2
12 (72) LCAS2
2,3,5-7,12 (21) LWRUA
1-3,5-7,10-12 (16) R/LW
2,3,5-7,12 (23) LWRLA
1-3 (4) PCK0
2,3,5-7,11 (33) LSRLOAD
2,3,5-7,11 (32) RCK
2,3,5-7,12 (24) LWRL
2,3,5-7,12 (22) LWRU
U130
U81
U105
EN1
EN2
RAM 16K X 4
U6
U28
U29
U5
20D0
20D7/21D0
20D12/21D5
20D13
C20(ROW)
G23/[REFRESH ROW]
24[PWR DOWN]
C21[COL]
G24
23C22
24,25EN
G25
A,22D
A,Z26
16383
U106
U82
SEL2
LATCH68K
SRG8
U62
U61
+5V
PCK0
LSRLOAD
RCK
SHIFT
DP2
(9) 8

PARTS ON THIS SCHEMATIC

U5,6,28,29,61,62,81,82,105,106,130

54110/SC12_04/13/8-88


MEMORY PLANE 3
P/O DISPLAY BD.
LATCH68K
LSEL3
LR/W
HD0—HD15
MA0—MA7
LRAS3
LCAS3
LWRUA
R/LW
LWRLA
PCK1
LSRLOAD
RCK
LWRL
LWRU
U131
U84
U108
RAM 16K X 4
U7
U31
U30
U8
U107
U83
SRG8
U63
U68
SHIFT
DP3
16383
C20[ROW]
G23/[REFRESH ROW]
24[PWR DOWN]
C21[COL]
SEL3
+5V

IC DEVICE
POWER CONNECTIONS

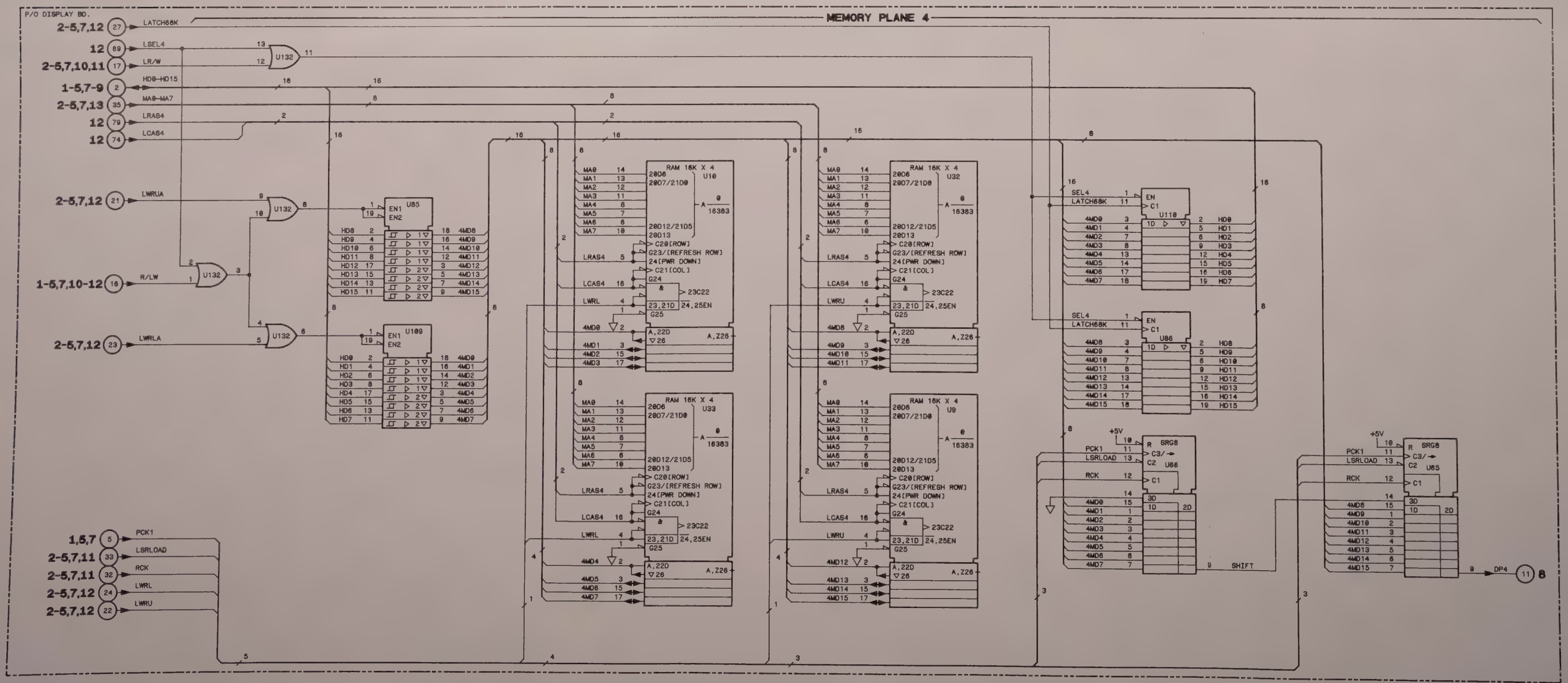
SUPPLY	PIN NO	IC GROUP
+5V GND	9 18	U7,8,30,31
+5V GND	16 8	U63,64
+5V GND	20 10	U83,84,107,108
+5V GND	14 7	U131

PARTS ON THIS SCHEMATIC

U7,8,30,31,63,64,83,84,107,108,131

54110/SC12_05/13/8-88

Memory Plane 3


MEMORY PLANE 4
P/O DISPLAY BD.
LATCH68K
LSEL4
LR/W
HD0—HD15
MA0—MA7
LRAS4
LCAS4
LWRUA
R/LW
LWRLA
PCK1
LSRLOAD
RCK
LWRL
LWRU
U132
U85
U109
RAM 16K X 4
U10
U32
U33
U9
U110
U86
SRG8
U66
U65
SHIFT
DP4
16383
C20[ROW]
G23/[REFRESH ROW]
24[PWR DOWN]
C21[COL]
SEL4
+5V

IC DEVICE
POWER CONNECTIONS

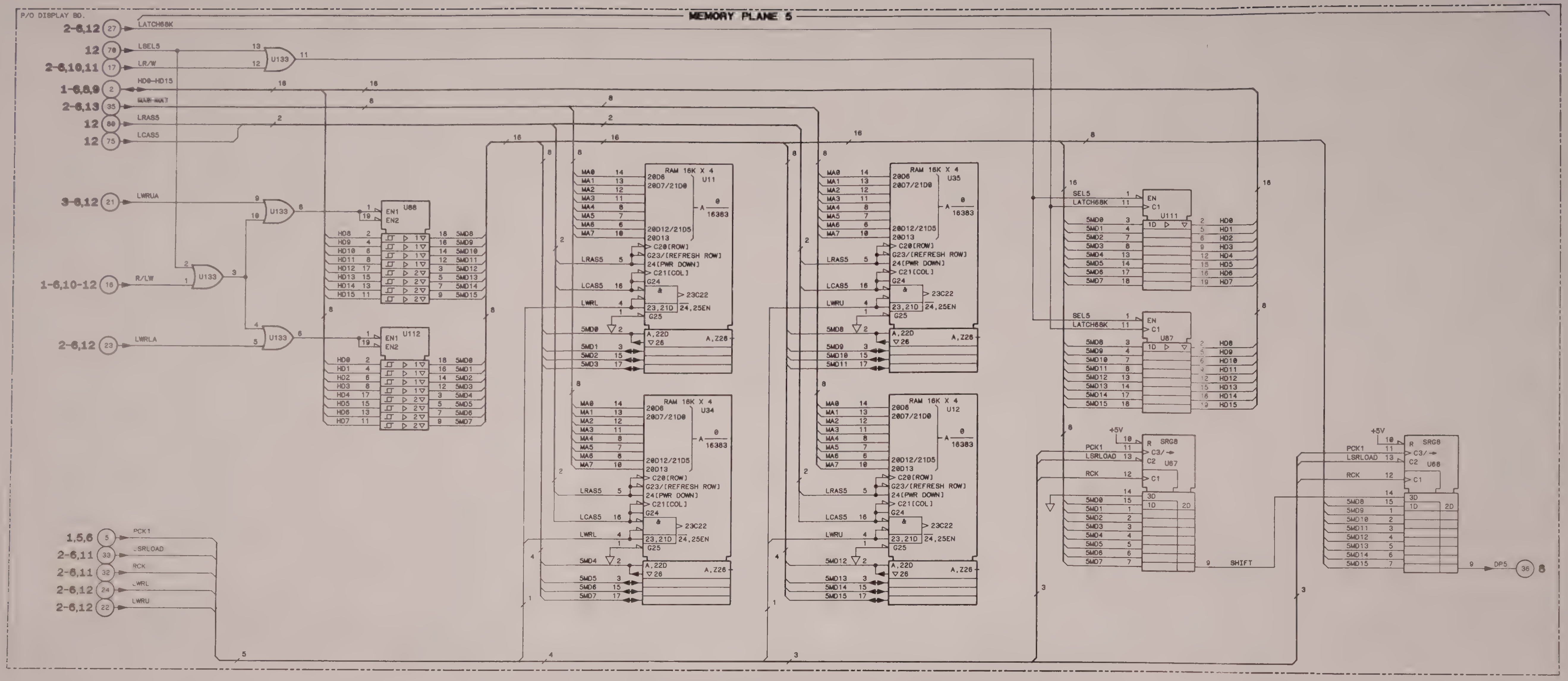
SUPPLY	PIN NO.	IC GROUP
+5V GND	9 18	U9,10,32,33
+5V GND	16 8	U65,66
+5V GND	20 10	U85,86,109,110
+5V GND	14 7	U132

PARTS ON THIS SCHEMATIC

U9,10,32,33,65,66,85,86,109,110,132

54110/SC12_06/13/8-88

Memory Plane 4


MEMORY PLANE 5
P/O DISPLAY BD.
LATCH68K
LSEL5
LR/W
HD0-HD15
LRAS5
LCAS5
LWRUA
R/LW
LWRLA
PCK1
LSRLOAD
RCK
LWRL
LWRU
U133
U88
U112
RAM 16K X 4
U11
U34
U35
U12
U111
U87
SRG8
U67
U68
SHIFT
DP5

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	9 18	U11,12,34,35
+5V GND	16 8	U67,68
+5V GND	20 10	U87,88,111,112
+5V GND	14 7	U133

PARTS ON THIS SCHEMATIC

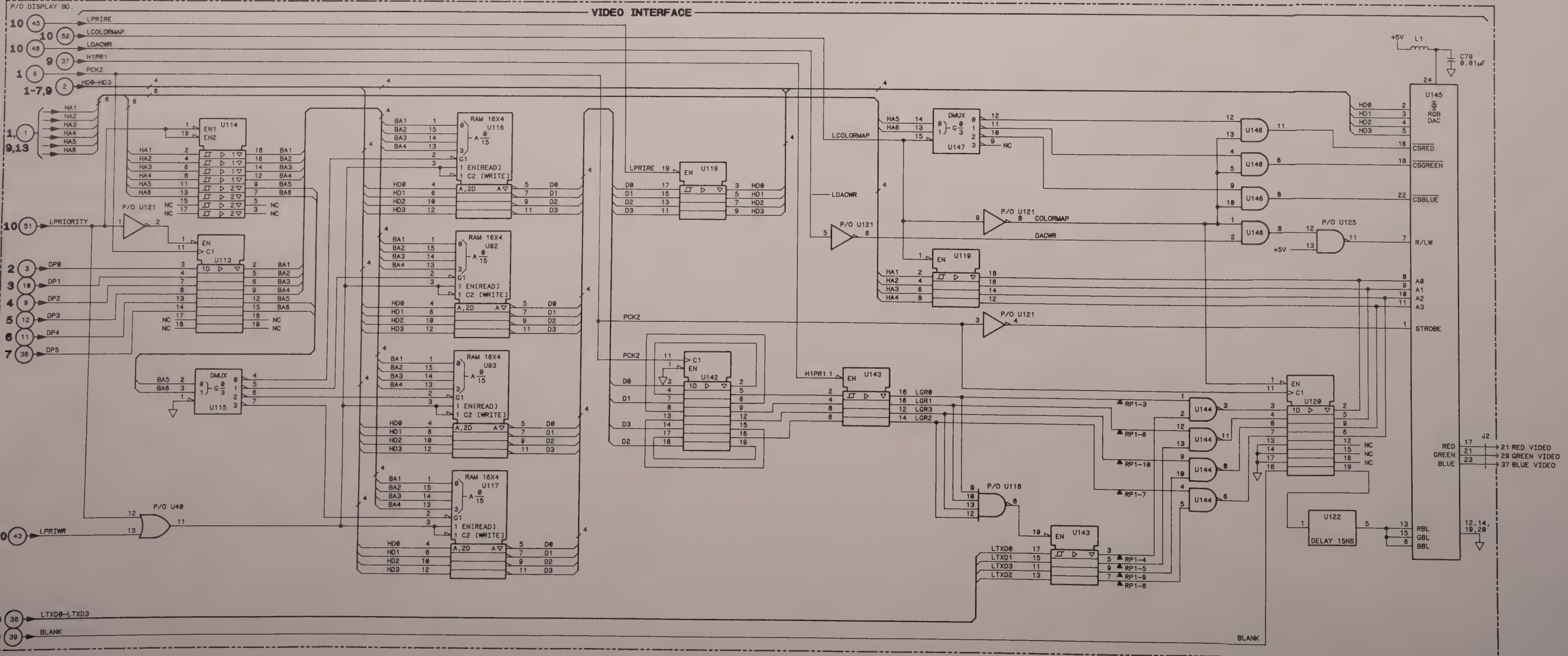
U11,12,34,35,67,68,87,88,111,112,133

54110/SC12_07/13/8-88

7

Memory Plane 5

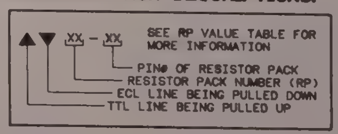
54110-66512

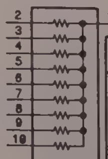

VIDEO INTERFACE
P/O DISPLAY BD.
LPRIRE
LCOLORMAP
LDACWR
H1PR1
PCK2
HD0-HD3
LPRIORITY
DP0
DP1
DP2
DP3
DP4
DP5
LPRIWR
LTXD0-LTXD3
BLANK
U114
U113
U115
DMUX
RAM 16X4
U116
U92
U93
U117
U119
U142
U143
U147
U146
U144
U120
U122
DELAY 15NS
U145
RGB DAC
CSRED
CSGREEN
CSBLUE
R/LW
STROBE
RBL
GBL
BBL
L1
C79
0.01µF
J2
RED
GREEN
BLUE
21 RED VIDEO
29 GREEN VIDEO
37 BLUE VIDEO

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	14 7	U40,118,121,125, 144,146
+5V GND	16 8	U92,93,115-117, 147
+5V GND	20 10	U113,114,119, 120,142,143
+5V GND	8 4	U122

RESISTOR PACK DESCRIPTIONS:


XX - XX
SEE RP VALUE TABLE FOR MORE INFORMATION
PIN# OF RESISTOR PACK
RESISTOR PACK NUMBER (RP)
ECL LINE BEING PULLED DOWN
TTL LINE BEING PULLED UP


1
2
3
4
5
6
7
8
9
10

RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP1	4700	1	+5V

PARTS ON THIS SCHEMATIC

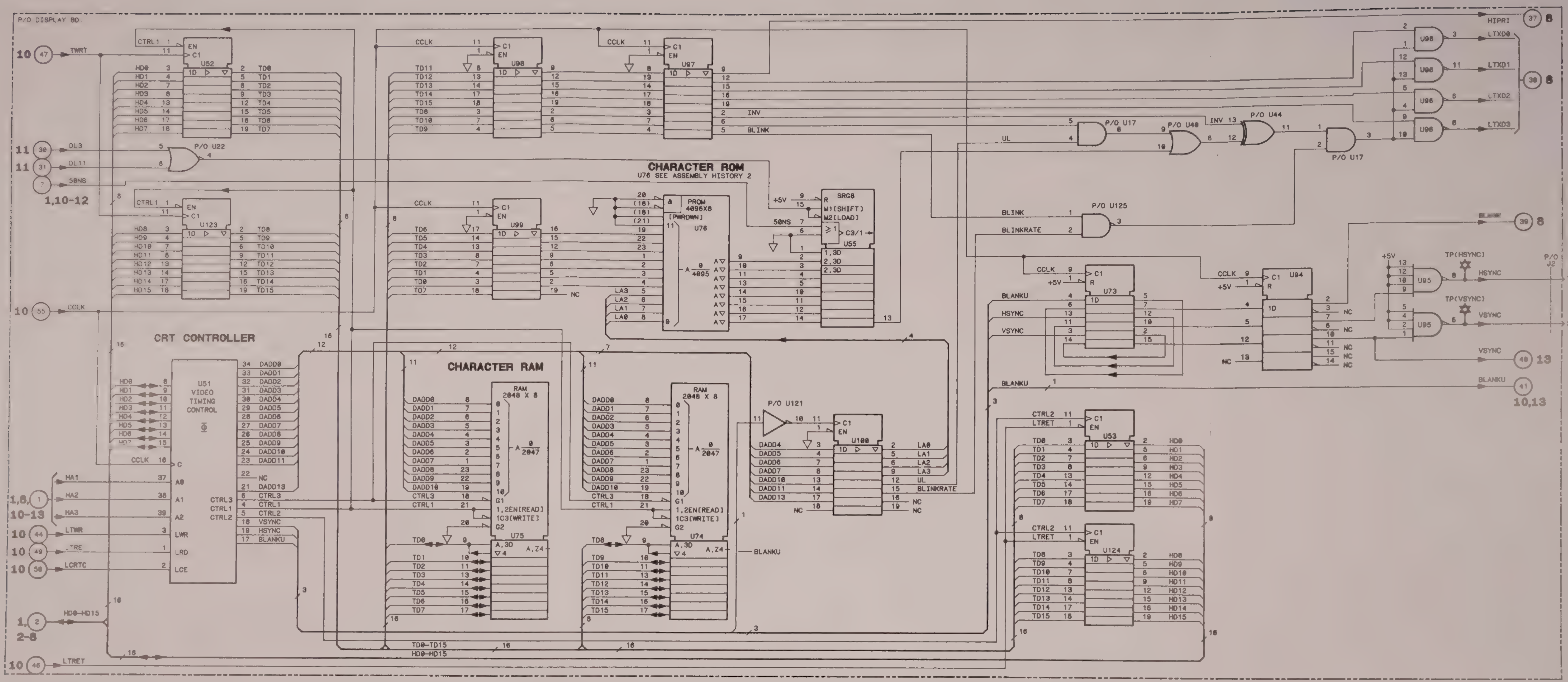
C79
L1
P/O J2
P/O U40,118,121,125
RP1
U92,93,113-117,119,120,122,142-147

54110/SC12_08/13/1-89

8

Video Interface

54110-66512


P/O DISPLAY BD.
CRT CONTROLLER
U51 VIDEO TIMING CONTROL
CHARACTER ROM
U76 SEE ASSEMBLY HISTORY 2
PROM 4096X8
CHARACTER RAM
RAM 2048 X 8
U75
U74
U52
U123
U98
U99
U97
U55
U73
U94
U95
U96
U53
U124
U100
P/O U22
P/O U17
P/O U40
P/O U44
P/O U121
P/O U125
TP(HSYNC)
TP(VSYNC)
HSYNC
VSYNC
BLANKU
LTXD0
LTXD1
LTXD2
LTXD3
HIPRI
CCLK
TWRT
LTRET
HD0–HD15
TD0–TD15
P/O J2

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	14 7	U17,22,40,44 95, 96,121,125
+5V GND	40 20	U51
+5V GND	20 10	U52,53,97–100, 123,124
+5V GND	16 8	U55,73,94
+5V GND	24 12	U74–76

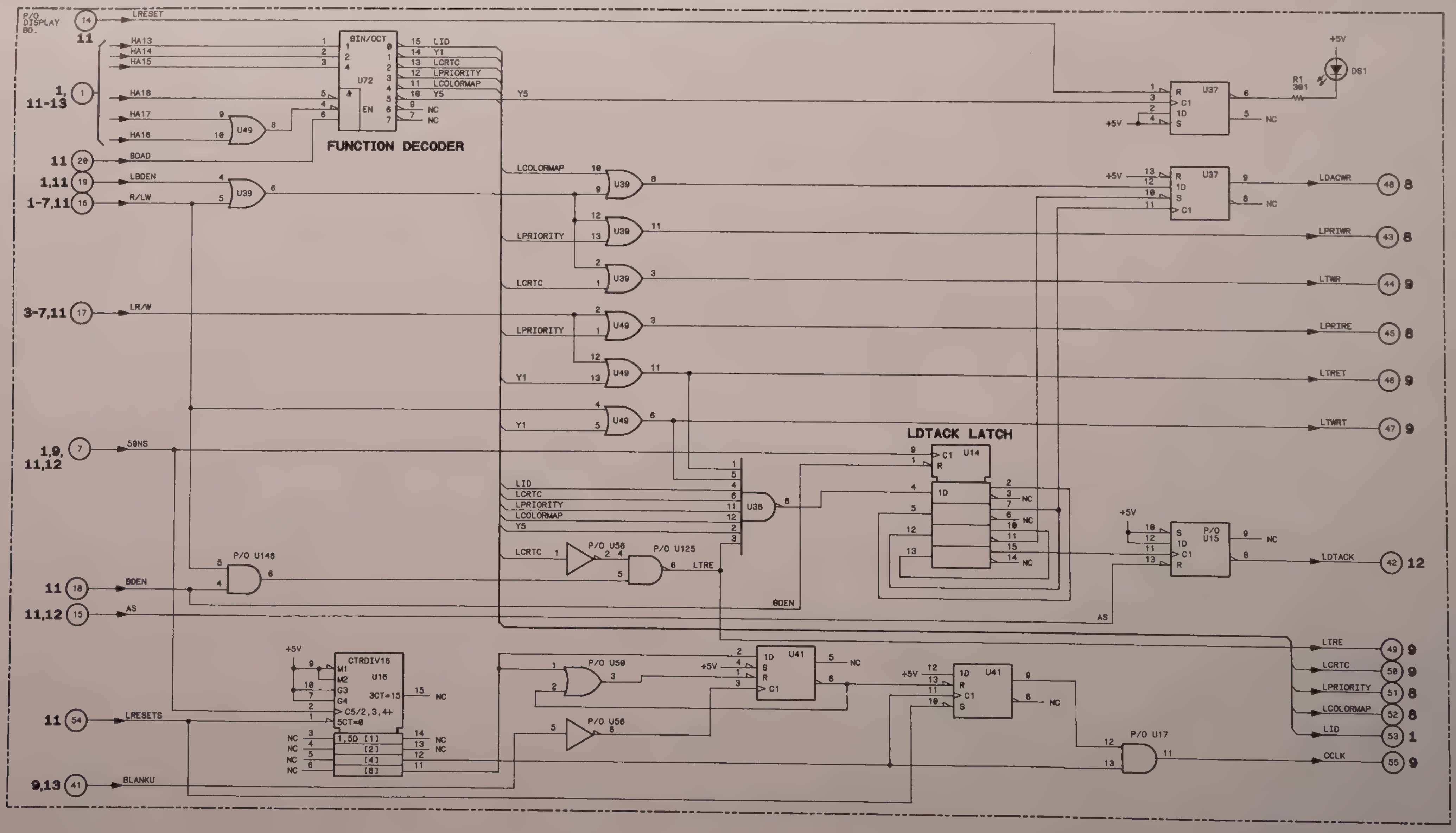
PARTS ON THIS SCHEMATIC

P/O J2
P/O U17,22,40,44,121,125
U51–53,55,73–76,94–100,123,124

54110/SC12_09/13/1-89

9

Crt Controller, Character RAM and ROM


P/O DISPLAY BD.
FUNCTION DECODER
BIN/OCT
U72
LDTACK LATCH
U14
U37
U38
U39
U49
P/O U15
P/O U148
P/O U56
P/O U125
CTRDIV16
U16
U41
P/O U50
P/O U17
DS1
R1 301
LRESET
LDACWR
LPRIWR
LTWR
LPRIRE
LTRET
LTWRT
LDTACK
LTRE
LCRTC
LPRIORITY
LCOLORMAP
LID
CCLK
BLANKU

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	16 8	U14,16,72
+5V GND	14 7	U15,17,37–39,41 49,50,56,125,148

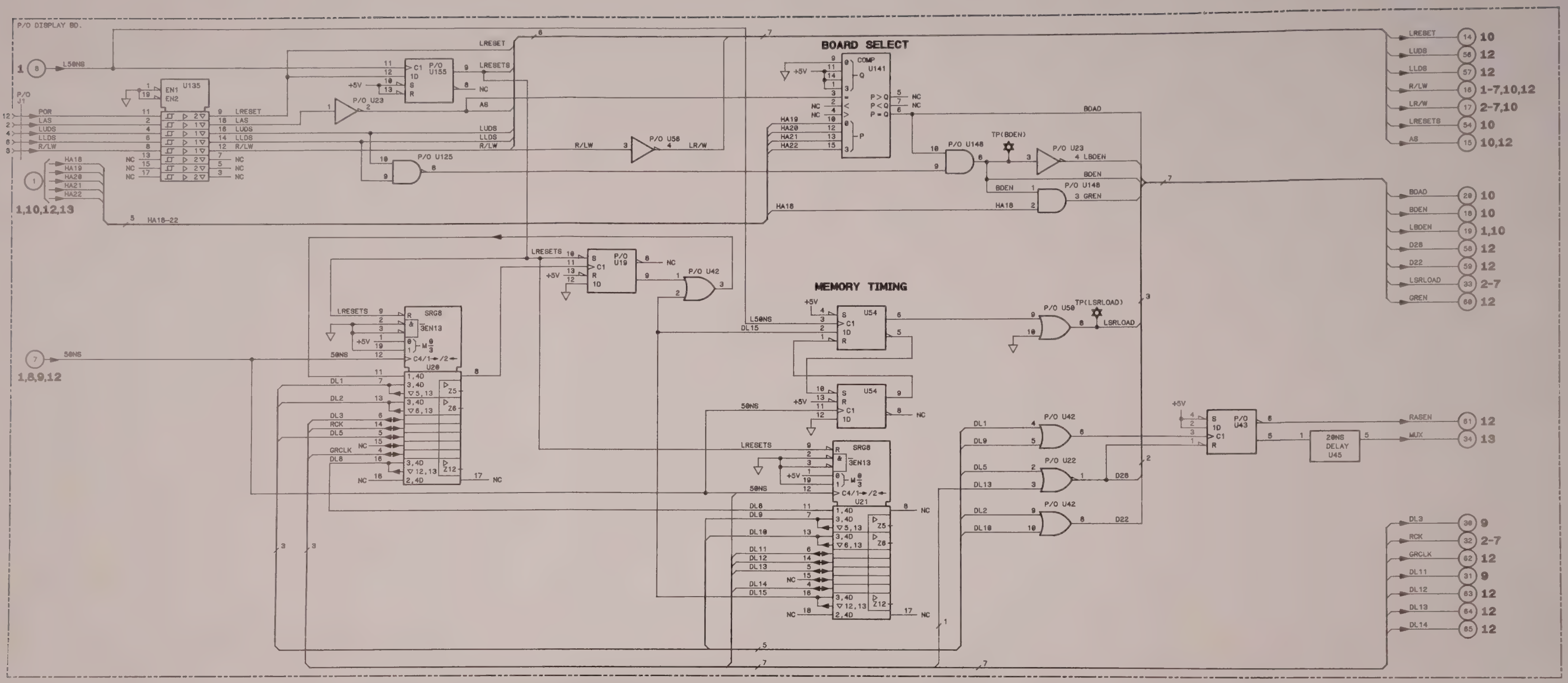
PARTS ON THIS SCHEMATIC

DS1
R1
P/O U15,17,50,56,125,148
U14,16,37–39,41,49,72

54110/SC12_10/13/12/1-89

10

Function Decoder, LDTACK Latch


P/O DISPLAY BD.
BOARD SELECT
MEMORY TIMING
P/O J1
L50NS
POR
LAS
LUDS
LLDS
R/LW
HA18
HA19
HA20
HA21
HA22
HA18–22
1,10,12,13
1,8,9,12
50NS
U135
P/O U155
P/O U23
P/O U125
P/O U56
COMP U141
P>Q
P<Q
P=Q
P/O U148
TP(BDEN)
LBDEN
BDEN
GREN
BDAD
P/O U19
P/O U42
SRG8
U20
U21
U54
P/O U50
TP(LSRLOAD)
LSRLOAD
LRESETS
DL1
DL2
DL3
DL5
DL6
DL8
DL9
DL10
DL11
DL12
DL13
DL14
DL15
RCK
GRCLK
P/O U22
D28
D22
P/O U43
20NS DELAY U45
LRESET
LUDS
LLDS
R/LW
LR/W
LRESETS
AS
BDAD
BDEN
LBDEN
D28
D22
LSRLOAD
GREN
RASEN
MUX
DL3
RCK
GRCLK
DL11
DL12
DL13
DL14
14 10
56 12
57 12
16 1-7,10,12
17 2-7,10
54 10
15 10,12
20 10
18 10
19 1,10
58 12
59 12
33 2-7
60 12
61 12
34 13
30 9
32 2-7
62 12
31 9
63 12
64 12
65 12

Color Display Assembly

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO	IC GROUP
+5V GND	14 7	U19,22,23,42,43, 50,54,56,125, 148,155
+5V GND	20 10	U20,21,135
+5V GND	8 4	U45
+5V GND	16 8	U141

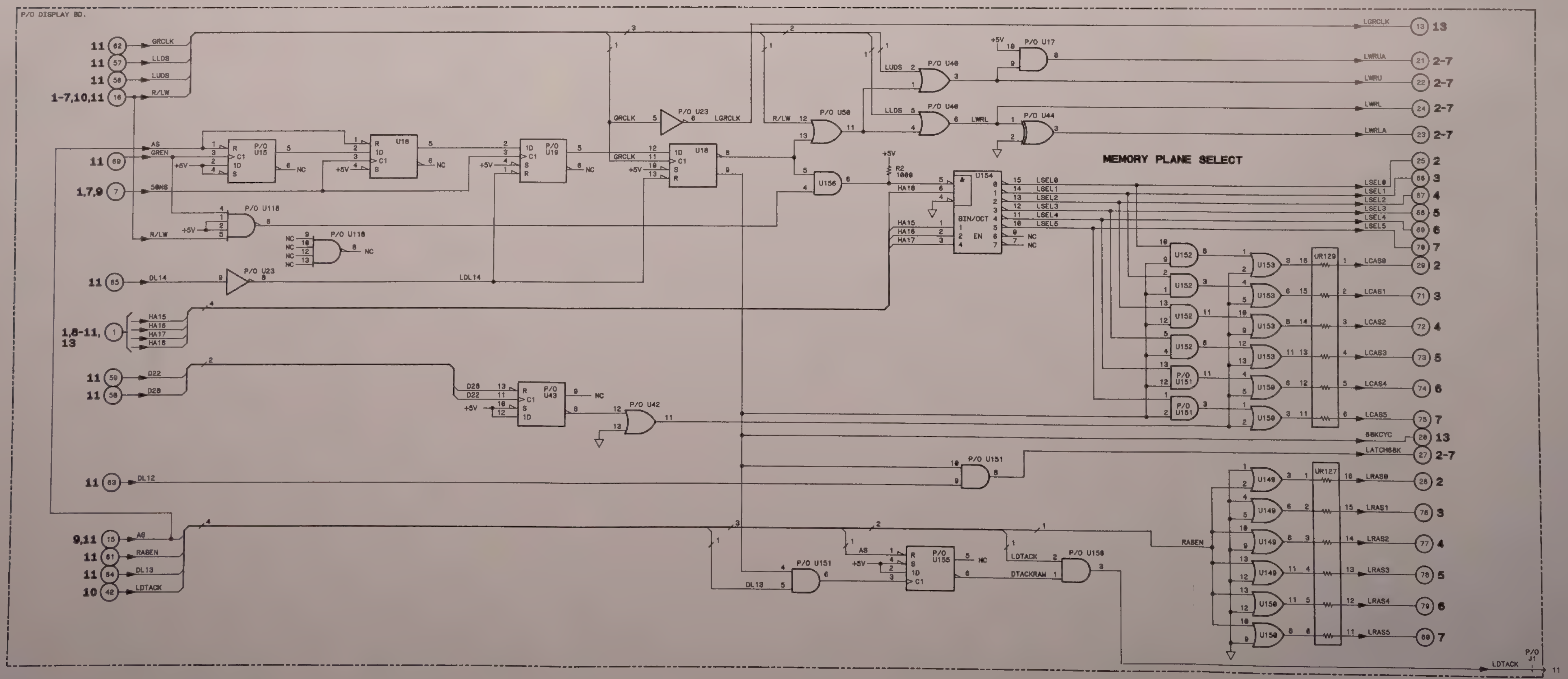
PARTS ON THIS SCHEMATIC
P/O J1 P/O U19,22,23,42,43,50,56,125,148,155 U20,21,45,54,135,141

54110/SC12_11/13/1-89

11

Board Select, Memory Timing

54110-66512


P/O DISPLAY BD.
MEMORY PLANE SELECT
11 62 GRCLK
11 57 LLDS
11 56 LUDS
1-7,10,11 16 R/LW
AS
GREN
11 60
1,7,9 7 50NS
11 65 DL14
1,8-11, 13 1 HA15 HA16 HA17 HA18
11 59 D22
11 58 D20
11 63 DL12
9,11 15 AS
11 61 RASEN
11 64 DL13
10 42 LDTACK
P/O U15
U18
P/O U19
U16
P/O U23
LGRCLK
P/O U118
LDL14
P/O U43
P/O U42
P/O U50
U156
R2 1000
U154
BIN/OCT
LSEL0
LSEL1
LSEL2
LSEL3
LSEL4
LSEL5
P/O U17
P/O U40
P/O U44
LWRL
P/O U151
P/O U155
DTACKRAM
P/O U156
U152
U153
U150
UR129
UR127
U149
LGRCLK 13 13
LWRUA 21 2-7
LWRU 22 2-7
LWRL 24 2-7
LWRLA 23 2-7
25 2
66 3
67 4
68 5
69 6
70 7
LCAS0 29 2
LCAS1 71 3
LCAS2 72 4
LCAS3 73 5
LCAS4 74 6
LCAS5 75 7
BBKCYC 28 13
LATCHBBK 27 2-7
LRAS0 26 2
LRAS1 76 3
LRAS2 77 4
LRAS3 78 5
LRAS4 79 6
LRAS5 80 7
LDTACK P/O J1 11

Color Display Assembly

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	14 7	U15,17–19,23,40 42–44,50,118, 149–153,155,156
+5V GND	16 8	U154

RESISTOR PACK DESCRIPTIONS:

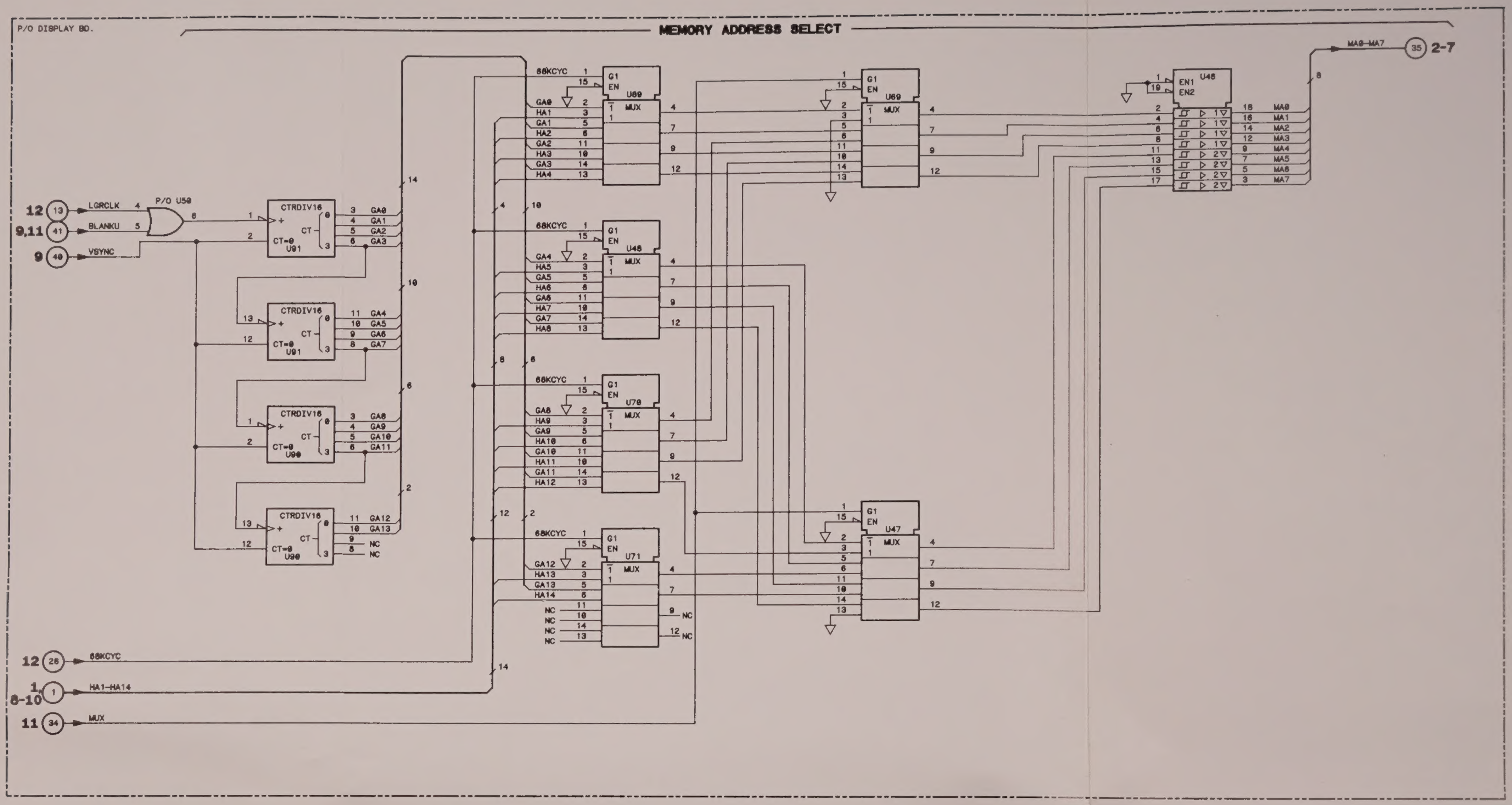
RP#	RESISTOR VALUE
UR127,129	33

PARTS ON THIS SCHEMATIC
P/O J1 P/O U15,17,19,23,40,42–44,50,118,155 R2 U16,149–154,156 UR127,129

54110/SC12_12/13/1-89

12

Memory Plane Select


P/O DISPLAY BD.
MEMORY ADDRESS SELECT
12 (13) LGRCLK
9,11 (41) BLANKU
9 (40) VSYNC
P/O U50
CTRDIV16
U91
U90
CT=0
GA0
GA1
GA2
GA3
GA4
GA5
GA6
GA7
GA8
GA9
GA10
GA11
GA12
GA13
NC
68KCYC
G1
EN
MUX
U89
U48
U70
U71
U69
U47
U46
EN1
EN2
HA1
HA2
HA3
HA4
HA5
HA6
HA7
HA8
HA9
HA10
HA11
HA12
HA13
HA14
MA0
MA1
MA2
MA3
MA4
MA5
MA6
MA7
MA0–MA7
(35) 2-7
12 (28) 68KCYC
1, 8-10 (1) HA1–HA14
11 (34) MUX

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V GND	20 10	U46,48,69–71,89
+5V GND	16 8	U47
+5V GND	14 7	U50,90,91

PARTS ON THIS SCHEMATIC

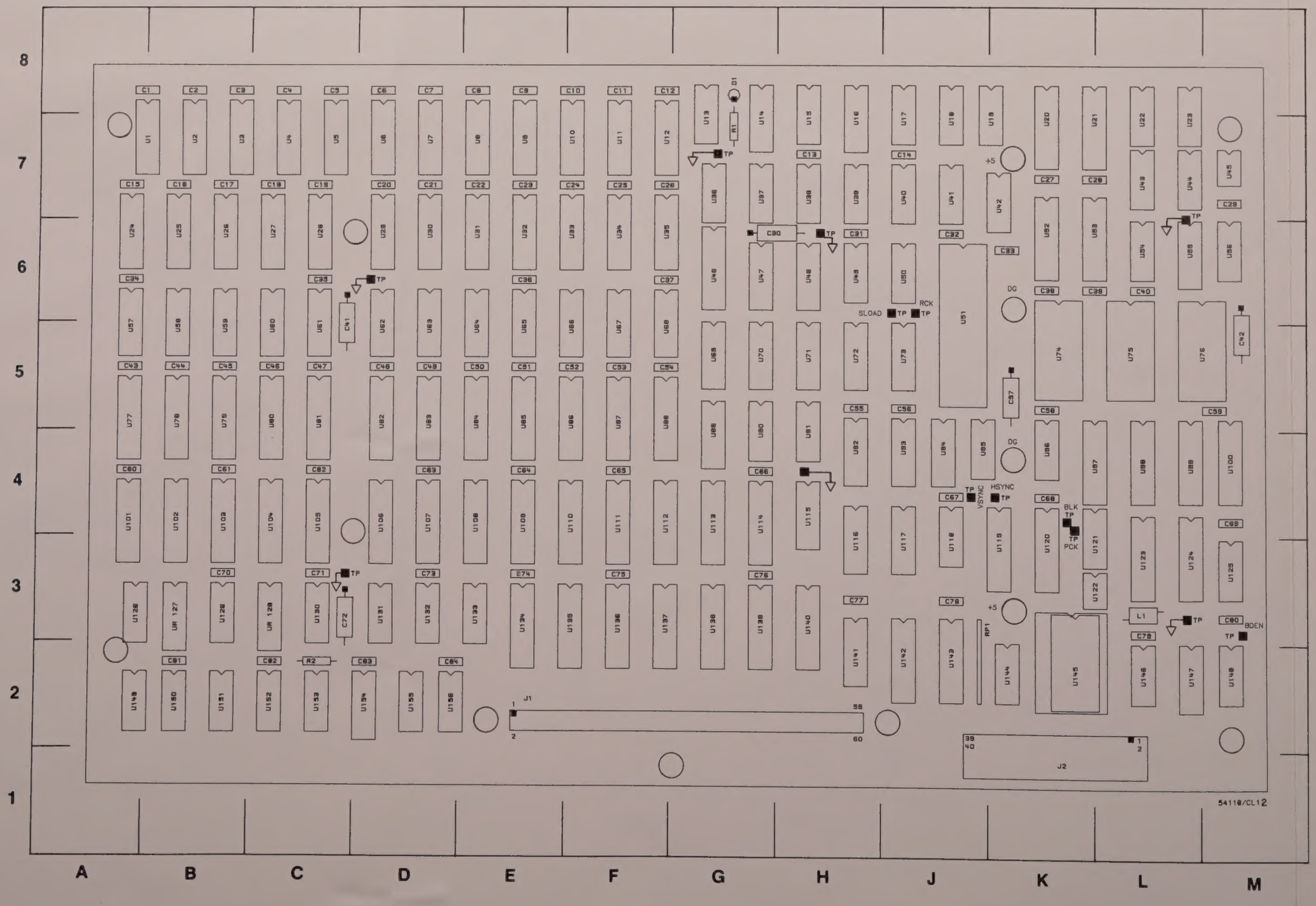
P/O U50
U46–48,69–71,89–91

54110/SC12_13/13/1-89

13

Memory Address Select

54110–66512


8
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
J
K
L
M
J1
J2
DS1
R1
R2
RP1
L1
TP
SLOAD
RCK
HSYNC
VSYNC
BLK
PCK
BDEN
DG
+5
54110/CL12

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	A-8	C45	B-5	J2	K-1	U37	G-7	U81	C-5	U125	M-3
C2	B-8	C46	C-5			U38	H-7	U82	D-5	U126	A-3
C3	B-8	C47	C-5	L1	L-3	U39	H-7	U83	D-5	U128	B-3
C4	C-8	C48	D-5			U40	J-7	U84	E-5	U130	C-3
C5	C-8	C49	D-5	R1	G-7	U41	J-7	U85	E-5	U131	D-3
C6	D-8	C50	E-5	R2	C-2	U42	K-7	U86	F-5	U132	D-3
C7	D-8	C51	E-5			U43	L-7	U87	F-5	U133	E-3
C8	E-8	C52	F-5	RP1	J-3	U44	L-7	U88	F-5	U134	E-3
C9	E-8	C53	F-5			U45	M-7	U89	G-5	U135	F-3
C10	F-8	C54	F-5	U1	A-7	U46	G-6	U90	G-5	U136	F-3
C11	F-8	C55	H-5	U2	B-7	U47	G-6	U91	H-5	U137	F-3
C12	F-8	C56	J-5	U3	B-7	U48	H-6	U92	H-4	U138	G-3
C13	H-7	C57	K-5	U4	C-7	U49	H-6	U93	J-4	U139	G-3
C14	J-7	C58	K-5	U5	C-7	U50	J-6	U94	J-4	U140	H-3
C15	A-7	C59	M-5	U6	D-7	U51	J-6	U95	J-4	U141	H-2
C16	B-7	C60	A-4	U7	D-7	U52	K-6	U96	K-4	U142	J-2
C17	B-7	C61	B-4	U8	E-7	U53	L-6	U97	L-4	U143	J-2
C18	C-7	C62	C-4	U10	E-7	U54	L-6	U98	L-4	U144	K-2
C19	C-7	C63	D-4	U11	F-7	U55	L-6	U99	L-4	U145	K-2
C20	D-7	C64	E-4	U12	F-7	U56	M-6	U100	M-4	U146	L-2
C21	D-7	C65	F-4	U13	G-7	U57	A-5	U101	A-4	U147	L-2
C22	E-7	C66	G-4	U14	G-7	U58	B-5	U102	B-4	U148	M-2
C23	E-7	C67	J-4	U15	H-7	U59	B-5	U103	B-4	U149	A-2
C24	F-7	C68	K-4	U16	H-7	U60	C-5	U104	C-4	U150	B-2
C25	F-7	C69	M-4	U17	J-7	U61	C-5	U105	C-4	U151	B-2
C26	F-7	C70	B-3	U18	J-7	U62	D-5	U106	D-4	U152	C-2
C27	K-7	C71	C-3	U19	K-7	U63	D-5	U107	D-4	U153	C-2
C28	L-7	C72	C-3	U20	K-7	U64	E-5	U108	E-4	U154	D-2
C29	M-7	C73	D-3	U21	L-7	U65	E-5	U109	E-4	U155	D-2
C30	H-6	C74	E-3	U22	L-7	U66	F-5	U110	F-4	U156	D-2
C31	H-6	C75	F-3	U23	L-7	U67	F-5	U111	F-4		
C32	J-6	C76	G-3	U24	A-6	U68	F-5	U112	F-4	UR127	B-3
C33	K-6	C77	H-3	U25	B-6	U69	G-5	U113	G-4	UR129	C-3
C34	A-6	C78	J-3	U26	B-6	U70	G-5	U114	G-4		
C35	C-6	C79	L-3	U27	C-6	U71	H-5	U115	H-4	BDEN	M-3
C36	E-6	C80	M-3	U28	C-6	U72	H-5	U116	H-4	BLK	K-4
C37	F-6	C81	B-2	U29	D-6	U73	J-5	U117	J-4	HSYNC	K-4
C38	K-6	C82	C-2	U30	D-6	U74	K-5	U118	J-4	PCK	K-3
C39	L-6	C83	D-2	U31	E-6	U75	L-5	U119	K-4	RCK	J-6
C40	L-6	C84	D-2	U32	E-6	U76	M-5	U120	K-4	SLOAD	H-6
C41	C-5			U33	F-6	U77	A-5	U121	L-4	VSYNC	J-4
C42	M-5	DS1	G-8	U34	F-6	U78	B-5	U122	L-3		
C43	A-5			U35	F-6	U79	B-5	U123	L-3		
C44	B-5	J1	E-2	U36	G-7	U80	C-5	U124	L-3		

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